

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF PUBLICATIONS—BULLETIN No. 7.

GEO. WM. HILL, EDITOR.

INDEX

TO THE

YEARBOOKS OF THE U. S. DEPARTMENT OF AGRICULTURE,
1894-1900.

PREPARED BY

CHARLES H. GREATHOUSE,

An Assistant Editor, Division of Publications.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1902.

[CHAPTER 23, Stat. at L., 1895.]

AN ACT providing for the public printing and binding and the distribution of public documents.
* * * * *

Section 73, paragraph 2:

The Annual Report of the Secretary of Agriculture shall hereafter be submitted and printed in two parts, as follows: Part One, which shall contain purely business and executive matter which it is necessary for the Secretary to submit to the President and Congress; Part Two, which shall contain such reports from the different Bureaus and Divisions, and such papers prepared by their special agents, accompanied by suitable illustrations, as shall, in the opinion of the Secretary, be specially suited to interest and instruct the farmers of the country, and to include a general report of the operations of the Department for their information. There shall be printed of Part One, one thousand copies for the Senate, two thousand copies for the House, and three thousand copies for the Department of Agriculture; and of Part Two, one hundred and ten thousand copies for the use of the Senate, three hundred and sixty thousand copies for the use of the House of Representatives, and thirty thousand copies for the use of the Department of Agriculture, the illustrations for the same to be executed under the supervision of the Public Printer, in accordance with directions of the Joint Committee on Printing, said illustrations to be subject to the approval of the Secretary of Agriculture; and the title of each of the said parts shall be such as to show that such part is complete in itself.

LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF PUBLICATIONS,
Washington, D. C., June 25, 1902.

SIR: I have the honor to transmit herewith the manuscript of the Index to the Yearbooks of the United States Department of Agriculture, 1894-1900, prepared by Mr. Charles H. Greathouse, an assistant editor in this Division, and to recommend the publication of the same as Bulletin No. 7 of the Division of Publications. An index to the Annual Reports of the Secretary of Agriculture, 1837-1893, has already been published as Bulletin No. 1, and the present index is in reality a continuation of that bulletin, but a new number is given to it because of the change in the law by which the Annual Report of the Secretary of Agriculture is published in two parts, of which the second is known as the Yearbook of the United States Department of Agriculture. The first publication of this report under this law was that of 1894. The present index, therefore, covers the Yearbooks 1894-1900, and will, it is believed, be helpful as affording a convenient and ready means of reference to the great variety of subjects in the volumes indexed.

It is the purpose to publish a supplementary general index every five or every ten years, as may prove advisable.

Very respectfully,

GEO. WM. HILL.

Hon. JAMES WILSON,
Secretary of Agriculture.

INDEX TO YEARBOOKS OF THE U. S. DEPARTMENT OF AGRICULTURE, 1894-1900.

A.

- Abattoirs, advantages, etc., 1894, 71.
and stockyards, ante-mortem inspection of animals, 1896, 19; 1899, 48.
inspections, 1898, 48.
number where meat is inspected, 1895, 10; 1897, 248.
table of inspections, 1891-1897, 1897, 20.
- Abbé, Cleveland, work, notes, 1899, 77, 87.
- ABBOTT, JAMES W., article on "Mountain roads," 1900, 183-198.
- Abilene, Tex., note on station for study of forage resources, 1898, 40.
- Abiogenesis, 1900, 237, 238.
- Abortion and milk fever, 1894, 307.
in mares and cows, millet as cause, 1898, 290.
- Acacia farnesiana*, use for perfumery, 1898, 394.
- Academy of Science of France, commission on nitrogen as plant food, 1899, 247.
Sciences, National, work of committee on forest policy, 1899, 295, 297.
- Accipiter* spp. (hawks), destruction of poultry, note, 1900, 429.
- Acclimatization of animals and plants; notes, 1898, 87.
- Accounts and Disbursements Division, remarks, organization and duties, etc., 1894, 47, 525; 1895, 61, 526; 1896, 558; 1897, 57, 621; 1898, 61, 596; 1899, 45, 670; 1900, 74, 636, 688.
- Acer grandidentatum* (maple) tree suitable for alkali soils, 1895, 121.
- Achras sapota* (sapodilla), injury by freezes in Florida in 1894-95; 1895, 172.
- Acid phosphate, character, 1894, 183.
- Acids known early in last century, 1899, 215.
- Acre, yield and value of crops by States, 1899, 783-792. (*See also* Crops.)
- Acreage of principal crops, statistics, 1899; 759-770. (*See also* Crops.)
- Actitis macularia* (sandpiper) food of nestling, 1900, 433.
- Adirondacks, lumbering on system devised by Division of Forestry, 1899, 420.
note on improvement in cutting spruce, 1899, 22.
- Adlum, Joseph, introduction of Catawba grape, 1899, 475.
- Adulteration, food, investigation in imports, 1898, 30.
work of Division of Chemistry, 1900, 23.
of feeding stuffs, Connecticut law, 1897, 427.
seed and misbranding, Connecticut law, 1897, 427.
seeds, 1897, 94; 1898, 482, 494; 1899, 571.
- Aeration, benefit to soil ferments, 1895, 77.
of alkali lands, note, 1899, 25.
soil, measures for providing, 1896, 240, 242, 244.
subsoil, usefulness in date growing, note, 1900, 472.
- Aerial observations by means of kites in weather service, 1898, 20.
stations, new list for Weather Bureau, 1898, 83.
- Africa, growing of dates; notes, 1900, 453, 458.
- Agaracini, group of toadstools; notes, 1897, 455.
- Agaricus melleus* (mushroom), cause of root rot, 1896, 249.
note on injury to trees, 1900, 200.
- Age of domestic animals, determination by teeth, 1898, 667.
- Agelaius phoeniceus* (blackbird) food of nestlings, 1900, 422.
- Agricultural books in traveling libraries, 1899, 509.
census annual, advocated, 1894, 57; 1895, 34.

- Agricultural chemistry, lectures of Dr. Trommer; note, 1899, 226. (*See also Chemistry.*)
- progress in 1899, 1899, 742-744.
- status at beginning of century, discussion, 1899, 202-218.
- college libraries, typical, 1899, 499-502.
- suggestion by Simeon De Witt, 1899, 163.
- colleges and experiment stations, organization, 1899, 171.
- bills granting lands, 1894, 95.
- field of work for graduates, 1899, 26.
- first permanent institutions, 1894, 91; 1899, 164.
- list, 1894, 526; 1895, 557; 1896, 603; 1897, 623; 1898, 597; 1899, 671; 1900, 637.
- Morrill act, 1894, 92.
- some terms of admission, 1898, 66, 67, 69, 71, 72, 73, 75, 76, 77; 1900, 674-686.
- types of American, article by A. C. True, 1898, 63-80.
- total fund from Morrill land grants, 1899, 168.
- education extension and popularization, 1898, 48, 49.
- hindrances, 1810 to 1840, 1894, 85.
- in the United States, first plans, 1894, 81, 82, 103, 113.
- France, article by C. B. Smith, 1900, 115-130. (*See also Education.*)
- plans in New Jersey and other States, 1894, 87.
- present status, 1894, 111.
- experiment station, State, first; remarks, 1899, 515.
- stations in the United States, article by A. C. True, 1899, 513-548.
- locations, directors, lines of work, 1894, 527; 1895, 558; 1896, 604; 1897, 624; 1898, 598, 601; 1899, 672; 1900, 638.
- remarks on work, 1895, 36; 1899, 171.
- exports and imports, remarks of Secretary, 1899, 46; 1900, 68. (*See also Agricultural products, exports.*)
- fairs at Washington, 1894, 84.
- libraries of the present time, 1899, 499-511.
- United States, list, 1899, 757.
- library society at Amherst, Mass., 1899, 497.
- machinery, influence of patent laws, 1899, 319.
- relation to size of farm, 1897, 586.
- occupations in United States, 1897, 584.
- production and prices, article by Geo. K. Holmes, 1897, 577-606.
- causes of increase, 1899, 314.
- products. (*See also Crops.*)
- comparison of hand and machine labor, 1897, 600.
- discussion of exports, 1897, 590.
- exports for 1896, by leading countries of destination, 1896, 589.
- 1894, 540; 1895, 543; 1896, 585; 1897, 736; 1898, 705; 1899, 822; 1900, 840.
- imports and exports, 1894, 543; 1895, 548; 1896, 591; 1897, 736; 1898, 705; 1899, 822; 1900, 840.
- prices of exports and imports, 1897, 749; 1898, 718; 1899, 836; 1900, 854.
- on farm, 1894, 545; 1895, 536; 1896, 573, 578; 1897, 723; 1898, 692; 1899, 793. (*For 1900 see Corn, etc.*)
- wholesale, in leading cities, 1894, 534; 1895, 537; 1896, 579; 1897, 726; 1898, 695; 1899, 799; 1900, 760.
- publications, early, cost, 1897, 209.
- of all countries, exchange, 1899, 45.
- remarks by Secretary, 1896, 39.
- resources of insular dependencies of United States, investigation, 1898, 19.
- schools in Belgium, private, encouragement by Government, 1896, 547.
- secondary, examination, 1896, 365.
- science, a pioneer, article by W. P. Cutter, 1895, 493-502.
- facilities of Department for post-graduate instruction, 1898, 18.
- scope of work, 1897, 294.
- seed, early references, 1899, 549.
- seeds, discussion, 1899, 564-570.

- Agricultural societies, distribution of prices in France, 1896, 546.
 Government direction in Belgium, 1896, 369.
 in United States, organization, 1899, 159.
 State secretaries, 1898, 610; 1899, 687; 1900, 642.
 Society, National, organization and work, 1899, 164.
 United States, report in 1856 on Angora goats, 1898, 435.
 Soils, establishment of Division, 1894, 25. (*See also* Soils).
 teaching, relation to usefulness of results of chemical studies, 1899, 224.
- Agriculture, appropriations for the Department, 1896 and 1897; 1896, 658; 1897, 622;
 1898, 596; 1899, 670; 1900, 636.
 Assistant Secretary, duties, 1894, 523; 1895, 523; 1896, 555; 1897, 619;
 1898, 593; 1899, 667; 1900, 73, 633.
 beginnings by white race in America, 1899, 308.
 Belgian, general characteristics, 1896, 362.
 change in methods and requirements, 1896, 544.
 colleges, list, 1894, 526; 1895, 559; 1896, 603; 1897, 623; 1898, 597; 1899,
 671; 1900, 637.
 consultative bodies for ideal department, 1896, 552.
 Department, affiliation of allied lines of work, remarks of Secretary,
 1900, 75. (*See also* Department.)
 cooperation of divisions, 1900, 26.
 early appropriation by Congress and aims of work, 1900, 9.
 exhibit of leaf tobacco at Paris Exposition, 1900, 160.
 necessary to disseminate scientific knowledge, 1895, 68;
 1896, 14, 543.
 remarks of Secretary regarding scope of work, 1900, 57.
 departmental and special professors in France, grades, duties, etc.,
 1900, 127.
 dependence of Hawaiian Islands, 1898, 566.
 division into specialties and diversification of courses of study, 1899, 174.
 duties and fees of technical committees in French ministry, 1896, 554.
 duty of a department to foster private efforts, 1896, 545.
 effect of hot waves, article by Alvin T. Burrows, 1900, 325-336.
 etc., work of meteorologist, article by F. H. Bigelow, 1899, 71-92.
 foreign officials, 1900, 674.
 fundamental principles of a department, 1896, 545.
 geographic distribution of work of Department, 1896, 15.
 high school courses, 1897, 287.
 ideal department, article by E. Tisserand, 1896, 543.
 in Alaska, need of appropriation for inquiry, 1897, 49.
 colonial Virginia, general remarks, 1895, 493.
 Porto Rico, article by Roy Stone, 1898, 505-514.
 increase of products with increase of population, 1899, 656-657.
 methods of control in France, 1896, 546.
 national department, in France, divisions and purpose, 1900, 115.
 necessity of statistics, 1897, 259.
 object and character of work of Department, 1896, 10.
 organization of secondary schools; common schools, 1899, 177.
 permanent scientific counselors for ideal department, 1896, 552.
 pressure of advancing civilization, 1896, 544.
 progress in United States, article by George K. Holmes, 1899, 307-334.
 proportion of scientific work in Department, 1896, 13.
 qualifications of heads of divisions in ideal department, 1896, 551.
 minister or secretary, 1896, 551.
 revival of interest, 1894, 86.
 scientific, at middle of century, 1899, 218-224.
 relation to progress in production, 1897, 605.
 scope of work of ideal department, 1896, 548.
 Secretary. (*See* Secretary of Agriculture.)
 short and special courses, 1897, 281.
 State officials, list, 1898, 609; 1899, 686; 1900, 641.
 suggestions as to ideal department, 1896, 549, 552.
 transition to more recent conditions, 1899, 312.
 value of exports, 1894, 65.
 weather forecasts, 1894, 121.
- Agropyrum* sp. (wild wheat grass), analysis, 1895, 315.
Agrostis alba (red top), distribution and usefulness, 1900, 584.
 number of seeds per pound, amount to sow, etc., 1894, 569.

- Agrostis* species, notes on usefulness and seed, 1898, 493, 494.
 stolonifera (creeping bent), note, 1895, 328.
- Agrostologist, visits to abandoned farms, 1899, 60.
- Agrostology, Division, exhibits at Atlanta Exposition, 1895, 513.
 investigations, 1897, 171-172.
 list of publications, 1896, 639; 1897, 628; 1898, 602; 1899, 677; 1900, 688.
 notes, organization, work, etc., 1894, 525; 1895, 44, 525; 1896, 557; 1897, 42, 161, 621; 1898, 39-41, 595; 1899, 10, 28-31, 669; 1900, 12, 37-42, 635.
 remarks on establishment, 1899, 350.
 review of work for farmer, by F. Lamson-Scribner, 1897, 166-175.
 some results of work, 1899, 361.
 transfer of corps from Division of Botany, 1897, 93.
- economic and scientific, progress, article by F. Lamson-Scribner, 1899, 347-366.
- establishment of Division, recommended, 1894, 24.
- note on studies of Division, 1898, 11.
- plans for future work, 1899, 31.
- scientific or systematic, review of work; books and writers, 1899, 362-366.
- special investigations of Department, 1899, 354.
- systematic, work of State agricultural experiment stations, 1899, 366.
- volunteer experimenters, 1899, 360.
- Agrotis messoria* (cutworm), notes, 1895, 400.
- saucia* (cutworm), notes, 1895, 400.
- ypsilon* and *annexa* as cutworms in tobacco, figures, 1898, 141.
- Air, hot, use in sterilization of milk, 1896, 441.
- importance of free access to soil in greenhouses, 1895, 252.
- lack in soil, cause of root diseases, 1897, 101.
- movement and appearance of the sky in relation to winds, 1898, 526.
 under weather conditions, 1897, 74.
- note on purifying effect of weeds, 1898, 196.
- observations on its moisture to foretell frosts, 1895, 149.
- upper, study with kites, 1897, 31.
 use of kites in exploration, article by C. F. Marvin, 1898, 201-213.
- Aix sponsa* (wood duck), food of nestlings, 1900, 435.
- Alabama, character of public lands, 1898, 347.
 note on possibility of production of lavender oil, 1898, 390.
 species of grasses, 1897, 173.
 Tuskegee colored institution, 1898, 64.
- Polytechnic Institute, sketch, 1898, 72.
- public lands, 1898, 326, 330.
- secondary schools of agriculture, 1897, 288.
- table on cost of fertilizer and profit on cotton, 1897, 599.
- varieties of wheat, oats, and corn for cultivation, 1897, 116.
- Alaska, agricultural difficulties and possibilities, discussion, 1897, 572.
 experiments, article by C. C. Georgeson, 1898, 515-524.
 investigations, 1898, 49.
 outlook of coast region, article by Walter H. Evans, 1897, 553-576.
- application of United States land laws, 1898, 354.
- character of public lands, 1898, 348.
- cheap production of hay at Cook Inlet, 1897, 564.
- commission, work, 1897, 50.
- comparison of agriculture with northern Europe, 1897, 573.
- discussion of annual rainfall, 1897, 557.
 berries, 1897, 564.
 cereals, 1897, 568.
 forests, 1897, 561.
 garden products, 1897, 566.
 grasses, 1897, 562.
 meteorology with reference to agriculture, 1897, 554.
 soils, 1897, 558.
 stock raising, 1897, 571.
- experiment stations, remarks, 1899, 529.
- general topography, 1897, 553.
- investigation for experiment station, 1896, 46.
 of agricultural possibilities, 1897, 141.

- Alaska, methods of cultivation, 1897, 569.
 miscellaneous food and other plants, 1897, 565.
 notes, climate and crop service, 1898, 22, 81.
 possibilities of growing flax, 1897, 485.
 problem in cattle raising, 1898, 522.
 proposed experiments as to agriculture, 1897, 49.
 public lands, 1898, 326.
 remarks of Secretary on agriculture, resources, etc., 1900, 59, 60, 62.
 site for experiment station in Sitka, 1898, 523.
 statement by Secretary as to products, 1898, 12.
 study of temperatures at stations, 1899, 13.
 work of experimental nature, remarks by Secretary, 1899, 34.
- Albatross, collection and use of eggs in Hawaiian Islands, 1899, 271.
- Albuminoid nitrogen in potatoes, note, 1900, 341.
- Alcohol, absolute, failure in killing anthrax virus, 1899, 119.
 chemical problem in production, 1899, 256. (*See also* Spirits.)
 poison destroyed by use, 1896, 138.
 production from wood, 1896, 394, 414.
 use to counteract poisoning, 1896, 141.
- "Alcoholic perfumery," notes, 1898, 377, 378.
- Aletia xyliana* (cotton worm), remedies, 1894, 573.
- Aleyrodes citri* (white fly), distribution, description and remedies, 1900, 283.
tabaci (white fly), damage to tobacco, 1898, 143.
- Alfalfa, chemical composition, feeding and fertilizing value, 1897, 496.
 crop suitable for alkali soils, 1895, 119.
 discussion of cultivation and use, 1897, 594.
 germination in alkali soil, 1898, 536.
 method of irrigating; effect of drought, 1900, 507, 510.
 number of seeds per pound, amount to sow, etc., 1894, 570.
 Turkestan, notes, 1898, 39; 1899, 62; 1900, 32, 141, 142.
- Alfort school, views as to origin of glanders, 1899, 97.
- Algeria, injury to tobacco by *Gelechia*, 1898, 139.
 time of fruiting and of flowering of date palm, 1900, 475, 477.
- Algerian varieties of dates, notes, 1900, 480.
- Alkali, danger in irrigation of soils in arid region, 1897, 132.
 effect on plant growth, 1895, 104; 1898, 502, 536.
 grass, crop suitable for alkali soils, 1895, 119.
 (salt grass), notes, 1894, 430.
 in soils, chemical antidotes, 1895, 116.
 injury to land by mistake in irrigation, 1897, 125.
 land, origin, value, and reclamation, article by E. W. Hilgard, 1895, 103.
 lands, cultivation of date palms, 1900, 470.
 drainage, 1898, 502.
 preparation for cereals by planting saltbush, 1898, 539.
 remarks by Secretary on reclamation, 1899, 26.
 suggestions as to reclamation, 1898, 501.
 worst, characteristics, 1898, 503.
 method of removal from soil, 1898, 502.
 note on relation to productiveness of soil, 1898, 535.
 salts, composition, 1895, 106.
 determination of distribution, 1895, 106.
 total amount compatible with ordinary crops, 1895, 115.
 soil, adaptability of barnyard millet, 1898, 279.
 soils, counteracting evaporation important, 1895, 114.
 crops suitable, 1895, 119.
 diagrams showing composition at various depths, 1895, 107, 108, 110, 111, 112.
 effects of irrigation, 1895, 105.
 forage plants for cultivation, article by Jared G. Smith, 1898, 535-550.
 how to remove the salts, 1895, 117.
 native plants, 1898, 537.
 need of rainfall, 1897, 129.
 notes on forage crops and irrigation, 1899, 341, 343.
 occurrence and characteristics, 1895, 103.
 of Yellowstone Valley, investigation, 1898, 41.
 Western deserts, notes on water supply, 1894, 434.
 pasture plants, discussion, 1900, 595-597.
 problem of grasses, 1899, 355.

- Alkali, soils, study and mapping in arid regions, note, 1899, 24.
 utilization and reclamation, 1895, 113.
 value of saltbushes and salt sages, 1899, 360.
 will it pay to reclaim them? 1895, 118.
- Alkaline soil, growing of barley and alfalfa, notes, 1900, 473.
 soils of West, article by Chemist in 1870, note, 1899, 238.
- Allegheny Mountains, conservative forestry, 1899, 421.
- Allen, C. L., statements as to practice of growers of seed on Long Island, 1898, 363.
- ALLEN, E. W., article on "The need and requirements of a control of feeding stuffs," 1897, 421-428.
- Allen, J. A., bird biographies for farmers, note, 1899, 261.
- Allenrolfea occidentalis* (greasewood), notes, 1898, 535, 548.
- Almarantus palmeri* (pigweed), suggested use as a pot herb, 1895, 212.
- Almond, imports, prices, varieties, extraction of oils, etc., 1898, 392.
 shot-hole fungus, treatment, 1894, 577.
- Almonds and almond oil, imports, 1897, 334, 336, 337.
- Alopecurus pratensis* (foxtail), notes on use, and seed, 1898, 492.
 number of seeds per pound, amount to sow, etc., 1894, 570.
- Alpine plants, modifications from effects of cold, aridity, and light, 1896, 97.
- Alsike clover, number of seeds per pound, amount to sow, etc., 1894, 570.
 suitable soil, 1897, 504.
- Alston, E. G., experiments with saltbushes in alkali soils, 1898, 537.
- Alternaria, species, cause of leaf-spot disease of violets, 1898, 264.
- ALVORD HENRY E., article on "Dairy development in the United States," 1899, 381-402.
 "Dairy products at Paris Exposition," 1900, 599-624.
 "The dairy herd; its formation and management," 1894, 295-316.
 "The manufacture and consumption of cheese," 1895, 453-474.
 "Utilization of by-products of the dairy," 1897, 509-528.
- Alwood, Professor, observations of tobacco worms, 1898, 129.
- Amanita muscaria* (poison mushroom), how distinguished from death cup, 1896, 144.
 phalloides (death cup), occurrence and appearance, 1896, 144.
- American breeder as a personality, remarks, 1899, 640, 641.
 butter, position on London market, 1897, 15.
 relation of price to foreign markets, 1897, 16.
 cattle in Glasgow, remarks on importation and sale, 1895, 21.
 colleges, need of uniformity, 1896, 365.
 creameries, attitude toward butter market, 1897, 17.
 dairy products, lack of supervision, 1899, 47.
 dietary studies, table showing summary, 1898, 450.
 "Entomologist," note on publication, 1899, 140.
 food products, average composition, 1897, 677.
 note on investigations, 1899, 35.
 hog products, shipments to England, 1896, 32.
 horses for English markets, 1894, 22.
 locomotive engine, popularity, 1899, 650.
 first importation, 1899, 646.
 meat products in foreign markets, 1895, 14.
 milk sugar, demand in England and Germany, 1897, 527.
 ornithology, development, 1899, 259-261.
 pork, study in connection with German inspection, 1897, 26.
 saltbushes, discussion, 1898, 544-549.
 stocks, use to prevent grapevine phylloxera, 1895, 390.
 wheat crop, relation to prices, 1900, 168.
- Ames, Iowa, test of steel-track wagon road, 1898, 293.
- Ammodramus savannarum passerinus* (sparrow), food of nestlings, 1900, 419.
- Ammonia absorption process for ice making, discovery by Carré, 1900, 566.
 formation in oxidizing of amins, 1899, 742.
 the soil, 1895, 73.
 Liebig's view of its place in plant nutrition, 1899, 222.
 note on accumulation in soil, 1899, 251.
- Ammoniacal copper carbonate, formula for fungicide, 1894, 579.
- Ammophila arenaria* (sand reed), notes, 1894, 423, 425.
 use in sand binding, 1898, 407, 409.
- Ampelis cedrorum* (waxwing), fruit eating; food of nestlings, 1900, 304, 417.

- Amphicerus bicaudatus* (grape cane-borer), description and methods of injury, 1895, 393.
- Anaheim, Cal., cooperation and irrigation, 1899, 594.
- disease, ravages among California grapes, 1898, 554.
- Analyses, official, perverted references by advertisers, 1895, 42.
- Analytical methods in chemistry, study, 1899, 743.
- Anas boschas* (mallard duck), food of nestling, 1900, 435.
- Anasa tristis* (squash bug), remedies, 1894, 574.
- Andalusian chickens, description and advantages, 1896, 470.
- Andromedotoxin, poison, notes, 1897, 97; 1900, 314.
- Andropogon furcatus* and *A. nutans* (blue stems), description and analysis, 1895, 314.
- hallii* (turkey-foot), value as a forage plant, 1895, 318.
- scoparius* (bunch grass), notes, 1895, 314, 327.
- spp., range and value, 1900, 589, 593.
- Angora goat, origin, value of fleece, first importation, 1898, 432.
- goats, estimate of total number in United States, 1898, 436.
- note on increase, 1898, 423.
- protection by fleece against cold, 1898, 424.
- Angoumois grain moth, notes, 1894, 281, 572.
- Angus cattle, importation for breeding, 1899, 633.
- Anhydrous ammonia, use in refrigeration, note, 1900, 567.
- Animal and human diseases, remarks on similarity, 1895, 432.
- vegetable food in dietaries, discussion, 1898, 446.
- composition of feeding stuffs, 1894, 558.
- diseases, some examples of development of knowledge, article by D. E. Salmon, 1899, 93-134.
- work of experiment stations, 1899, 546.
- distribution, fundamental principles, 1894, 211.
- experiment station, need, 1897, 26.
- food, average composition, 1895, 573.
- foods, nutritive content, 1898, 446.
- husbandry, lack of scientists, 1899, 37.
- industry, administrative work of the Federal Government, article by George F. Thompson, 1899, 441-465.
- Bureau, appropriations, 1894, 36. (See also Bureau, Animal Industry.)
- decrease in cost of inspection, 1896, 20.
- extension of civil service, 1894, 33.
- inspection of vessels and export animals, 1896, 21.
- need of education, 1899, 67.
- organization and duties, 1894, 523; 1895, 524; 1896, 556; 1897, 619; 1898, 594; 1899, 668; 1900, 634.
- work of the year, 1894, 33.
- matter, exports, 1891-1895, 1895, 543.
- parasites and parasitic diseases, 1897, 255.
- products and foreign markets, 1897, 10.
- Animals, amount and value of manure produced, 1894, 572.
- diseased, from United States, charge made, 1894, 12.
- exported, number of head lost in transit, 1895, 12.
- farm, statistics, 1895, 533-535; 1896, 574-576; 1897, 733-735; 1898, 701-704; 1899, 818-821; 1900, 824-835.
- imported, inspection and quarantine, 1895, 13; 1896, 22.
- in North America, geographic distribution, 1894, 203.
- inspection, cost, payment by producer, 1896, 23.
- for exportation, 1895, 11.
- live, first shipment from Australia to London, 1895, 20.
- statistics of British imports, 1893 to 1896, 1896, 30.
- note on effect of soiling on health, 1899, 615.
- noxious, danger of introducing, article by T. S. Palmer, 1898, 87-110.
- number inspected in 1895 and 1894, 1895, 9.
- tagging, cost, comparisons showing decrease, 1896, 20.
- value of exports to different countries, 1895, 546.
- Anise, notes on imports and problem of growing in America, 1898, 393.
- Aniseed oil, production and price, 1895, 204.
- "Ankee," use by Indians, desirability, etc., 1898, 278.
- Annual and biennial plants in seed growing, 1899, 563.
- report in two parts, law, 1894, 51.
- of Department, changes, 1897, 217.
- reports of weather stations, extracts, 1894, 125.

- Anona cherimolia* (cherimoya, or Jamaica apple), injury by freezes in Florida in 1894-95, 1895, 172.
 muricata (sour sop), injury by freezes in Florida in 1894-95, 1895, 172.
 squamosa (sweet sop), injury by freezes in Florida in 1894-95, 1895, 172.
- Anthonomus grandis* (weevil), investigations of Division of Entomology, 1895, 51.
 signatus (weevil), remedies, 1894, 574.
- Anthoxanthum odoratum* (vernal grass), amount to sow, etc., 1894, 570.
- Anthrax and blackleg, comparison, 1899, 123.
 application of germ theory, 1899, 117.
 demonstration of cause by *Bacillus anthracis*, notes, 1900, 237.
 early descriptions, 1899, 114.
 investigations of cause, 1899, 114.
 nature demonstrated by experiments, 1899, 122.
 (or charbon), discussion, 1899, 113-120.
 persistence of contagion in soil, 1899, 116.
 rods, observations, 1899, 117.
 use of vaccine for prevention, 1897, 240.
 virus, failure of killing with compressed oxygen, 1899, 119.
- Anthrenus scrophularia* (carpet beetle), remedies, 1894, 573.
- Anthyllis vulneraria* (kidney vetch), amount to sow, etc., 1894, 570.
- Anticyclones, explanation of term, 1898, 526.
- Antidotes, suggestions against common plant poisons, 1896, 138, 141, 143, 145.
- Antisell, Thomas, note on appointment as chemist of Department, 1899, 238.
- Antiseptic action of food preservatives, note, 1900, 553.
- Antitoxic serum, use against hog cholera, 1897, 253.
- Antitoxin, beneficial effect in hog cholera, 1897, 22.
 serum for hog cholera, note by Secretary, 1898, 13.
- Antivivisection societies, remarks as to effect for legislation, 1899, 101.
- Ants, relation to citrus scale insects; relation to plant lice, notes, 1900, 253, 292.
- Apatites, phosphate fertilizer, composition, 1894, 177.
- Aplomado falcon, notes, 1894, 228.
- Appalachians, Southern, practical forestry, article by Overton W. Price, 1900, 357-368.
- Apple and pear, note on tendency to self-sterility, 1898, 167.
 blight, note on cause and remedy, 1899, 193.
 fruit borer, introduction, notes on life history, 1897, 550.
 grading after evaporation, 1898, 312.
 graft on wild stocks in Virginia, 1897, 308.
 Kei, note on introduction in Arizona, 1900, 138.
 leaf skeletonizer, remedies, 1894, 572.
 pear, plum, and cherry, objects and methods of pruning, 1898, 162.
 root-borer injuries in Australia, 1897, 546.
 root-plant louse, remedies, 1894, 572.
 storage, large profits in early experiments with ice, 1900, 565.
 trade, effect of refrigeration, discussion, 1900, 572.
 United States with England, 1894, 21.
 tree borer, flat-headed, remedies, 1894, 572.
 trees, experiments in root grafting, 1895, 47.
 worm (codling moth), remedies, 1894, 573.
- Apples, American, in England, remarks by Secretary, 1896, 34.
 and pears, especially fruitful varieties, 1898, 178.
 average composition, 1897, 679.
 conclusions regarding cross pollination, 1898, 177.
 discussion of cross pollination, 1898, 175-177.
 early shipments "on ice" and under mechanical refrigeration, 1900, 578.
 supply in the United States, 1897, 310.
 from Austria-Hungary, testing adaptability to our climates and soils, 1895, 47.
 importance and effect on prices of refrigeration, discussion, 1900, 570.
 improvement, origin of well-known varieties, 1899, 478.
 in Southern States, work of gardens and grounds, 1897, 190.
 investigation of varieties, 1894, 146.
 note on production of American varieties, 1899, 465.
 varieties in trans-Mississippi region, 1898, 56.
 pears, and quinces, notes on diseases, 1900, 729.
 ripe and dried, exports, 1893-1895, 1895, 48.
 shipments from Mississippi Valley, 1897, 343.
 suggestions to American shippers, 1896, 35.
 treatment for evaporation, 1898, 311.

- Apples, value of cores and skins, 1898, 312.
 varieties preferred in England, 1896, 34.
 withering from borer, 1897, 547.
- Appointment clerk, Department of Agriculture, duties, 1898, 593; 1899, 667; 1900, 633.
- Appointments and promotions in Department of Agriculture, 1896, 12.
- Appropriation 1895 and estimate 1896, comparison, 1894, 48.
 emergency, statement by Secretary as to need, 1898, 13.
 estimates for increase of weather service, 1897, 28.
 for experiment stations, 1894, 49.
 section of foreign markets, use, 1897, 40.
- Appropriations, Alaskan agricultural investigation, 1896, 46.
 amount saved fiscal year ending June 30, 1894, 1894, 9.
 Division of Publications, relation to increase of work, 1896, 41.
 effect of restriction on chemical investigations, 1897, 36.
 for Department of Agriculture, 1896, 9; 1896, 658; 1897, 622; 1898, 596; 1899, 670; 1900, 636.
 experimental operations in Alaska, 1898, 51, 515.
 extension of weather service in arid region, 1898, 20.
 Farmers' Bulletins, 1897, 215.
 free delivery of rural mails, list to date, 1900, 513.
 lack for increase of work of Biological Survey, 1898, 33.
 observations by Secretary on need of fund for investigations by insular dependencies, 1898, 19.
 publications, inadequacy, 1897, 219.
 requirement for irrigation investigation, 1898, 53, 54.
 seed distribution, use, 1897, 40.
- Apricot shot-hole fungus, treatment, 1894, 577.
- Arabia, growing of dates, notes, 1900, 153, 458.
- Arabs, pollination of date palm, 1900, 477.
- Arachis hypogæa* (peanut), use in production of oil, 1895, 196.
- Arbor Day for schools, establishment and observance, 1899, 306.
 in Japan, methods of observation, 1895, 39.
 vitæ, range, etc., 1897, 654.
- Arboretum, proposed, discussion by Secretary, 1899, 66.
- Arctic life zone, description, 1894, 210.
- Ardea* spp. (herons), food of nestlings, 1900, 435.
- Area and population of Hawaiian Islands, 1898, 563.
- Argemone mexicana* (Mexican poppy) seed, use in producing oil, 1895, 204.
- Argentina, cattle exported to the United Kingdom, 1893-1895, 1895, 20, 23.
 improvements of herds, 1896, 25.
 sheep and cattle trade with United Kingdom, 1896, 25.
 mutton exported to the United Kingdom, 1893-1895, 1895, 25.
 statistics of wheat production, 1890-1896, 1897, 265.
- Arid and humid regions compared as to soils and rainfall, 1894, 157; 1898, 500.
 subarid regions, conditions for timber growth, 1897, 156.
 lands, native grasses, 1897, 166.
 prairies, general remarks, 1895, 312.
 public land, need of reform in management, 1899, 602.
 region, appearance and resources, 1899, 598.
 depth of soil moisture, 1894, 159; soils, 1894, 155; subsoiling, 1894, 163.
 methods needed for development, 1899, 607.
 regions, conditions as to soluble salts in soils, 1898, 498.
 inversion of temperatures, 1900, 467.
 keeping of meat, note, 1900, 551.
 modifications of perennial plants, 1897, 507.
 need of study and mapping, 1897, 120.
 of far West, problems, 1897, 125.
 water-right problems, 1899, 597.
- Aristida* and *Stipa* spp. (needle grasses), value as forage plants, 1895, 318.
 species of grasses, value in desert region, 1900, 595.
- Arizona, civilization in Salt River Valley, 1899, 599.
 (experiment) station, notes on experiments with new crops, 1900, 138.
 growing of oranges, 1897, 321.
 growth of saltbush, 1898, 540.
 introduction of African date palm, quantity of fruit, 1900, 460, 463, 466, 475.
 public lands, 1898, 326, 330.
 character, water supply, irrigation, 1898, 335.

- Arizona, sections fit for growing date palm, 1900, 487.
 seedling dates, 1900, 480.
 southern, suggestion for cotton growing, 1897, 117.
 varieties of wheat for cultivation, 1897, 116.
- Arkansas, public lands, 1898, 326, 330, 346.
 River, peculiarities and use in irrigation, 1896, 175.
 usefulness of Redfield's grass as sand binder, 1898, 417.
 volume of flow at several points, 1896, 175.
- Arlington, note on experimental farm, 1900, 77.
- Armored scales, enemies of citrus trees, description and habits, 1900, 263.
- Army officers, assignment to duty in weather service, 1899, 79.
- Arnold, James, establishment of arboretum at Bussey Institution, 1899, 514.
- Aromatics, umbelliferous, notes, 1898, 393.
- Arrhenatherum avenaceum* (meadow oat grass), amount to sow, etc., 1894, 569.
- Arsenic bait, preparation and use against insects, 1897, 638.
 common white, note on use as insecticide, 1899, 149.
- Arsenical compounds, remarks on use as insecticides, 1899, 148.
 poison, supposed danger in use against insects, notes, 1899, 147.
 use against insect enemies of tobacco, 1898, 125.
 spray, use against tobacco insects, 1898, 139, 142, 150.
- Arsenicals, preparation and use against injurious insects, 1897, 637; 1898, 659.
 use against bean and pea beetles, and caterpillars, 1898, 250, 252, 254, 255, 258.
- Artesian wells, extensive use in irrigation in Africa; use in Sahara, 1900, 461, 471.
 for irrigation, notes, 1898, 338, 340, 341, 342, 343, 344, 345, 346.
- Arthur, J. C., work at Geneva, N. Y., on diseases of plants, 1899, 193.
 remarks on ripening from immature seeds, 1898, 363.
- Artichoke, Jerusalem, crop suitable for alkali soils, 1895, 120.
- Artificial manures, suggestions of Liebig, 1899, 223.
- Ash and box elder, experiment and introduction into Minnesota, 1897, 158.
 in plants, notes, 1899, 222.
 saltbushes, notes, 1898, 538.
 planting for fence posts; sections for profitable planting, 1900, 149, 152.
- Ashes and lime, action upon nitrogen of humus, 1895, 134.
 early ignorance of valuable constituents, 1899, 208.
 maples, elms, and other varieties, character and use of wood, 1897, 664.
 note on use in lawn making, 1897, 368.
- Ash-gray blister beetle, injury, life history, and remedies, 1898, 249.
- Asia, experiments with grass seeds, 1898, 40.
 use of millets as food, 1898, 277.
- Asiatic conifers, value of root pruning, 1898, 157.
 laborers in Hawaiian Islands, conditions, 1898, 579.
- Asio wilsonianus* (long-eared owl), food of nestlings, 1900, 430.
- Asparagus beetle, remedies, 1894, 573.
 beetles, article by F. H. Chittenden, 1896, 341.
 common, destruction by heat, 1896, 347.
 life history, 1896, 344, 345.
 markings; distribution, 1896, 343.
 natural checks; remedies, 1896, 346, 347.
 twelve-spotted, description, life history, and habits, 1896, 351.
 introduction and spread, 1896, 349.
 remedies, 1896, 352.
 immunity from insects, 1896, 341.
 methods of injury of common beetle, 1896, 342.
 soil adapted, 1894, 133.
 time of danger from beetles, 1896, 342.
- Aspen, range, characteristics, uses, etc., 1897, 669.
- Aspidiotus aurantii*. (See Red scale.)
perniciosus (San Jose scale), notes, 1894, 267.
 remedies, 1894, 574.
 spp. (scale insects), distribution, varieties, and method of control, 1900, 267-269.
- Assistant Secretary of Agriculture, direction of seed distribution, 1898, 35
 divisions assigned, 1894, 24. (See also Agriculture.)
- Association of Economic Entomologists. (See Entomologists.)
- Associations of agricultural scientists, relation of Office of Experiment Stations, 1899, 530.

- Asters, remarks of Darlington as to varieties, 1899, 570.
- Astragalinus tristis*. (See Goldfinch.)
- Atkinson, Edward, researches in food nutrition, 1894, 39.
- George F., observations of cigarette beetle, 1898, 145.
- Professor, note on experiments in steaming tobacco, 1898, 147.
- Atlanta Exposition, work of the Department of Agriculture, article by Robert E. Wait, 1895, 503-522.
- Atlantic coast, quarantine stations, 1897, 251.
- States, notes on soil, 1897, 127.
- Ocean, North, special storm forecasts of Weather Bureau, 1900, 14.
- seaboard truck lands, 1894, 129, 131.
- Atmospheric storms, explanation, 1897, 74.
- Atriplex hortense* (orach), use as a pot herb, 1895, 212.
- semibaccata* (saltbush), description and use, 1898, 539.
- species, notes, 1895, 119; 1898, 538, 541, 542, 544, 546, 547.
- Atropine, antidote for mushroom poisoning, 1896, 145.
- use as remedy for poisoning by larkspur, 1900, 318.
- Attar of roses, value and manufacture, 1898, 381.
- Attenuated culture of tuberculin, note on production; importance, 1898, 113, 114.
- Attorney-General, opinion on use of experiment station funds, 1899, 32.
- Atwater, Professor, share in establishment of experiment station work in Connecticut, 1899, 516.
- ATWATER, W. O., article on "Food and diet," 1894, 357-388.
- inauguration of work in dietary studies, 1898, 440.
- nutrition investigations, 1899, 530.
- studies of nutrition, 1899, 405, 406, 407, 409, 410.
- Auction sale and shipping association systems of selling truck produce, 1900, 448.
- Audubon societies for study and protection of birds, 1899, 716; 1900, 670.
- Aughey, Samuel, study of foods of birds of Nebraska, 1899, 262.
- Auklets, food of nestlings, 1900, 433.
- Australasia, exports of butter to United Kingdom, 1893-1895, 1895, 30.
- cheese to United Kingdom, 1893-1895, 1895, 29.
- mutton exported to United Kingdom, 1893-1895, 1895, 25.
- shipments of fruit under refrigeration, 1900, 578.
- Australia, destructiveness of fruit bat, 1898, 97.
- first large shipment of live animals to London, 1895, 20.
- injuries by starling, 1898, 102.
- introduction of English sparrows, 1898, 100.
- native saltbushes, 1898, 539.
- note on failure to stamp out pleuropneumonia, 1899, 110.
- notes on rabbits as pest, 1898, 93.
- western, notes on law against destructive animals, 1898, 109.
- Australian insects, injurious, discussion, 1897, 546.
- package for butter, 1897, 15.
- saltbush, description and use; value for alkali soils, 1898, 537, 539.
- value and introduction, 1899, 360.
- saltbushes, crops suitable for alkali soils, 1895, 119.
- Austria-Hungary, note on reports of trade with United States, 1898, 37-39.
- Austroriparian life zone, description, 1894, 211.
- Avalanche, or snow slide, relation to mountain roads, 1900, 187.
- Aves Islands, discovery of guano, note, 1899, 275.
- Awards, dairy, for United States at Paris Exposition, list, 1900, 733.
- for dairy exhibits, Paris Exposition of 1900, juries and methods, 1900, 601-603.
- soft cheese, Paris Exposition of 1900, 1900, 623.
- on dairy exhibits, Paris Exposition of 1900, scale of marking, etc., 1900, 602, 604, 606.
- Awn grasses, triple, value in desert region, 1900, 595.
- Awnless brome grass, number seeds per pound, amount to sow, 1894, 569.
- notes on grass and seed, description of seed, 1898, 491.
- Awns, distinction of rye-grass seeds, 1898, 490.
- of grass seed, notes, 1898, 475.

B.

- Babcock, S. M., award of grand prize of honor at Paris Exposition, 1900, 621.
- invention of tester for fat in milk, 1899, 395.
- Babson, Herman, note on review of literature of history of agricultural education, 1899, 157.

- Bacillus amylovorus* (pear blight), microbe causing pear blight, 1895, 296.
anthracis, cause of anthrax, note, 1900, 237.
 experiments, 1899, 122.
 note on results of discovery, 1899, 120.
ellenbachensis α , note, 1899, 249.
 of blackleg, notes, 1899, 123.
 blight, relation to tuberculosis and typhoid fever, 1897, 104.
 glanders, remarks, 1899, 100.
 threads in anthrax, notes, 1899, 118.
tuberculosis, remarks of Secretary, 1900, 19.
- Bacon, American, low prices in England, 1896, 32.
 and pork, competition with frozen beef and mutton in London, 1896, 26.
 exports to Great Britain, 1894, 17; 1895, 15; 1896, 29.
 imports into United Kingdom, 1894, 13; 1895, 17.
 in Great Britain, remarks on prices and consumption, 1895, 15, 16, 24.
 market, British, demand, 1897, 272.
 relative value of Danish and American, 1894, 15.
 sale of American product under Irish name, 1899, 46.
- Bacteria as cause of disease, notes, 1900, 237, 240.
 difference in resistance to heat, 1896, 440.
 experiments with hand centrifugal machine for removing, 1895, 441.
 how milk becomes contaminated, 1895, 433.
 inefficiency of milk separators in removing, article by Veranus A. Moore, 1895, 431-444.
 injurious by decomposition of nitrates, 1899, 252.
 inoculation of soil for nitrogen, 1897, 299.
 manipulation in preparation of tuberculin, 1898, 112.
 methods of destroying or removing, from milk, 1895, 435.
 of swine plague and hog cholera, inefficiency of separators in removing, 1895, 440.
 on roots of leguminous plants, discussion, 1897, 491.
 relation to cleanliness in dairy, 1896, 431.
 work in supplying nitrogenous food for leguminous plants, 1899, 248.
 of supplying nitrogenous food for plants in general, 1899, 249.
- Bacteriological investigation of soils, 1899, 342.
- Bacteriosis, study, 1898, 264.
- Baden, prevention of rabies by muzzling of dogs, 1900, 245.
- Bahama Islands, estimated annual export of pineapples to United States, 1895, 269.
- Bahia oranges, introduction into California, 1897, 321.
- Bailey, C. P., statement as to improvement of pastures by goats, 1898, 437.
- BAILEY, L. H., article on "Sketch of the relationship between American and Eastern Asian fruits," 1894, 437-442.
 "The improvement of our native fruits," 1896, 297-304.
 leadership in extension of agricultural education, 1899, 178.
 remark on changes in apple produced by climatic condition, 1898, 373.
 development of new races of plants, 1898, 368.
- Professor [L. H.], remarks as to varieties of vegetables, 1899, 567.
- Bait, arsenic, preparation and use as insecticide, 1898, 659.
 poison, preparation and use as insecticide, 1894, 575.
- Baker Island guano, quality, 1899, 275.
- Balbi, Joseph F., statement as to Malta goats, 1898, 432.
- Bald eagle, food, 1894, 227; 1900, 430.
- Baldwin apple, increase of fruit by cross pollination, 1898, 176.
 Mathias, early construction of locomotives, 1899, 647.
- Balloon voyages in weather service, note, 1899, 91.
- Balm of Gilead, range, uses, etc., 1897, 669.
- Baltimore oriole, 1895, 426.
 as enemy of pea weevil, 1898, 237.
 food habits and relation to fruit growing, 1900, 298.
- Bamboo, suggestion as sand binder, 1898, 420.
- Banana cultivation in Porto Rico, observations of Porto Rican, 1898, 508.
 injury by freezes in Florida in 1894-95, 1895, 172.
- Bananas in Hawaiian Islands, quantity and quality, 1898, 571.
 notes and statistics of imports, 1897, 326.
- Barbarea praecox* (winter cress), cultivation and use as a pot herb, 1895, 208.
- Barberry, growth without spines in moist atmosphere, 1896, 96.
 notes on relation to wheat rust, 1899, 192.

- Bark beetle, fruit, remedies, 1896, 573.
 louse, oyster shell, notes, 1894, 254, 574.
 scurfy, notes, 1894, 259.
- Barley, acreage, yield, value, by States, 1895, 529; 1896, 567; 1897, 711; 1898, 679; 1899, 761, 767; 1900, 784-785.
 area in crop, changes from 1879 to 1889, 1895, 528.
 average price per bushel on farm, 1899, 795.
 yield and value per acre, 1893-1897, by States, 1897, 619, 721; 1898, 688, 690; 1899, 785, 790.
 in certain countries, 1899, 798.
 crop of certain countries, 1895-1899, 1899, 778.
 effect of different temperatures on germination, 1895, 178.
 exports. (*See Exports.*)
 to different countries, values, 1891 to 1895, 1895, 546.
 Great Britain, 1894, 20.
 farm prices, December 1, 1894, 545; 1895, 532, 536; 1896, 573; 1897, 724; 1898, 693; 1899, 795; 1900, 785.
 freight rates. (*See Transportation.*)
 growing on alkaline soil, note, 1900, 473.
 imports. (*See Imports.*)
 in Alaska, notes, 1898, 518.
 influence of weight of seed on earliness of development, 1896, 319.
 Manshury, introduction by Wisconsin station, 1899, 543.
 notes on crossing with wheat, 1897, 389.
 potash, withdrawal from soil in cultivation, 1896, 114, 115.
 price in Great Britain, 1894, 19.
 quantity, acreage, and value, by States, 1895, 529.
 smut, hot-water treatment, 1894, 417, 577.
 smut's affecting, 1894, 414.
 statistics of world's crop and of United States acreage, yield, value, and prices, 1900, 781-787.
 wholesale price in leading cities, 1894, 537; 1895, 540; 1896, 582; 1897, 729; 1898, 698; 1899, 806; 1900, 786.
 wild, value as a forage plant, 1895, 318.
 yield in certain countries, 1895 to 1899, 1899, 778, 798.
- Barleys, differences in quality and price and suggestion for improvement, 1900, 136.
- Barn owl, method of feeding; food of nestlings, 1900, 301, 430.
 notes, 1894, 223.
- Barnacle scale, *Ceroplastes cerripediformis*, description and distribution, 1900, 278.
- BARNES, ALMONT, article on "Keeping goats for profit," 1898, 421-438.
- Barnwell, J. S., statement as to injuries to tobacco by bud worm, 1898, 133.
- Barnyard grass, crop suitable for alkali soils, 1895, 121.
 manure, use for millets, 1898, 284. (*See also Manure.*)
 millets, discussion, 1898, 256-281.
- Barometer, action in hurricane, 1898, 531.
- Barred owl, notes, 1894, 225.
- Barthélemy, production of anthrax in horses and sheep, 1899, 115.
- Basic slag as a fertilizer, 1894, 186.
 phosphates, adulteration, 1894, 190.
 slags, study by Division of Chemistry, 1897, 83.
- Baskets for marketing truck produce, 1900, 451.
- Basswood, range, uses, etc., 1897, 668.
- Bastard spruces, description, uses, etc., 1897, 651.
- Batter, brief definition and remarks on necessity, 1900, 188.
- Bavarian barleys, quality and price, 1900, 136.
- Bayberry, use in binding sands, 1898, 411.
- Beach grass, extensive growth at Cape Cod, 1898, 411.
 use in sand binding, 1897, 174; 1898, 407, 409.
 (water oats) as soil binder, 1894, 430.
- BEAL, F. E. L., article on "Birds that injure grain," 1897, 345-354.
 "How birds affect the orchard," 1900, 291-304.
 "The blue jay and its food," 1896, 197-206.
 "The crow blackbirds and their food," 1894, 233-248.
 "The meadow lark and Baltimore oriole," 1895, 419-430.
 estimate of amount of weed seed eaten by birds, 1898, 225.
 study of birds, notes, 1899, 265, 266.
- Beal W. S., note on work on grasses, 1899, 364.

- Bean, broad or horse, suitable climate, 1897, 504.
 castor. (*See* Castor bean.)
 ladybird, description, distribution, remedies, 1898, 251.
 leaf beetle, description, distribution, life history, and remedies, 1898, 253.
 roller, notes, 1898, 258.
 Madagascar, or lablab, note on test for introduction, 1900, 143.
 soja, use in producing oil, 1895, 204.
 weevil, common, discussion, 1898, 239-242.
 four-spotted, distribution and history, 1898, 245.
 life history and habits, 1898, 241.
 Mexican, notes, 1898, 248.
 remedies, 1894, 573; 1898, 247.
- Beans, acreage devoted to growing seed, 1899, 560.
 and peas, exports, 1895, 545, 547. (*See also* Exports.)
 imports, 1895, 550. (*See also* Imports.)
 insects injurious, article by F. H. Chittenden, 1898, 233-260.
 attacks of boll or corn-ear worm and flea beetles, 1898, 255.
 development of varieties, 1899, 567.
 experiment with seed of different weights, 1896, 317.
 Metcalf and other native, value for forage, 1897, 506.
 potash, withdrawal from soil in cultivation, 1896, 115.
 weeviled, reason against planting, 1898, 242.
- Bear River Canal, irrigation, loss, 1899, 596.
- Beard grass, twisted, range, character, and value, 1900, 593.
- Beaumont, note on observation of digestion of potato, 1900, 345.
- Beck, Lewis C., chemical study of breadstuffs, 1899, 235.
- Bee culture, 1899, 15; 1900, 28.
 keepers' associations, 1899, 708-710; 1900, 662.
 pollination of flowers, 1898, 169.
- Beech, range, uses, etc., 1897, 659.
- Beecher, Henry Ward, remark on early fruit trees in Indiana, 1899, 471.
- Beef, American, price in Europe, 1895, 21.
 breeds, three leading, remarks, 1899, 632.
 cattle and beef in Alaska, note, 1897, 571.
 experiment in feeding with beet pulp, 1898, 216.
 exports to United Kingdom, 1894, 10.
 chilled, shipment to Europe, 1895, 21.
 diagrams showing cuts of meat, 1895, 572.
 dressed, 1894, 12. (*See also* Dressed beef.)
 exports. (*See* Exports.)
 fresh, export to United Kingdom, 1892 to 1896, 1896, 29.
 note on exclusion from Germany, 1897, 244.
 imported into Great Britain, average price, 1895, 24.
 imports into United Kingdom, 1894, 13; 1895, 22.
 price in Great Britain, 1894, 19.
 wholesale, in Liverpool, Berlin, and Paris, 1895, 24.
 products, exports to different countries, 1895, 546.
 quarters, number tagged, 1894, 67, 68.
 salted, exported to United Kingdom, 1892 to 1896, 1896, 29.
 statistics of inspection in 1898, 1898, 23.
 stock, note on feeding calves, 1897, 518.
 trade, conduct in England, 1894, 11.
- Beefsteak fungus, edible toadstool, description, etc., 1897, 466.
- Beer, prohibition of use of sulphurous acid, 1900, 556. (*See also* Malt liquors.)
- Bees, necessity to orchardist, 1898, 180.
 note on transportation of pollen, 1898, 175.
 use of weeds on vacant city lots, 1898, 196.
 serious factor in spread of blight of plants, 1897, 105.
- Beeswax, exports to different countries, 1895, 547.
 imports, 1891 to 1895, 1895, 548.
- Beet pulp, experiments in feeding; cost and feeding value, 1898, 217.
 seeds, germination test, 1894, 400.
 sugar and food investigations, 1898, 30.
 chemical study, new factories, 1897, 80; 1899, 744.
 experiments and investigations, 1897, 10. (*See also* Sugar beet.)
 industry, value to farmer, 1898, 220.
 manufacture of sugar, 1899, 254.

- Beet sugar manufacture residues, utilization in cattle feeding, article by G. L. Spencer, 1898, 213-220.
 note on distribution of seed, 1898, 36.
 notes on work of chemist and others, 1899, 15.
 possible increase of sugar content, 1897, 418.
- Beetle, flea, description; injuries to tobacco; remedies, 1898, 123-128.
- Beetles, ambrosia, actions in case of alarm, 1896, 425.
 characteristics of the larvæ, 1896, 426.
 food fungi, 1896, 422, 423.
 forms of excavations, 1896, 427, 428.
 injuries from operations, 1896, 422.
 life history, 1896, 425.
 remedies against attacks, 1896, 430.
 (tree borers), article by Henry G. Hubbard, 1896, 421-430.
- asparagus, article by F. H. Chittenden, 1896, 341-352.
- blister, note on history and remedies, 1898, 249-251.
- genus injurious to legumes, 1898, 233.
- injuries by several species to dried tobacco, 1898, 148.
- Beets, crop suitable for alkali soils, 1895, 120.
 improvement of sugar content by breeding, 1898, 370.
 requirement of potash and phosphoric acid, 1898, 128.
- Beet-seed balls, special care needed in testing, 1895, 181.
- Beggarweed, Florida, value for succulent forage, 1899, 624.
 introduction as crop, analysis, 1897, 502.
 weeds, value as forage plants, 1895, 318.
- Belgian hare, note as to danger of introduction; club, 1900, 45, 652.
 primary school, sample lesson in agriculture, 1896, 368.
- Belgium, agricultural education and research, article by A. C. True, 1896, 361.
 institute at Gembloux, course of study, 1896, 364.
 amount of sodium nitrate used for manurial purposes, 1895, 90.
 butter exhibit at Paris Exposition, 1900, and awards, 1900, 612.
 export of eggs to the United Kingdom, 1893-1895, 1895, 30.
 pork to the United Kingdom, 1893-1895, 1895, 17.
 liberal treatment of special students in agriculture, 1896, 365.
 notes on imports of horses; notes on flax raising, 1897, 277, 476.
 secondary agricultural schools, 1896, 365.
- Beloglino wheat, fitness for growing in semiarid districts, 1900, 535.
- Belt, remark on artificial selection in plant breeding, 1898, 366.
- Ben Davis apple, note on crossing with other varieties, 1898, 177.
- Benne (sesame) oil, production and use, 1895, 197.
- Bent, creeping (brown-top), notes, 1895, 328, 330.
 grasses, notes on seed, 1898, 494.
 usefulness in lawn making, 1897, 359.
- Benzine, use against cigarette beetle, 1898, 147.
- Benzoic acid, use as food preservative, 1900, 558.
- Berckmans, P. J., statement as to rose for manufacture of attar, 1898, 383.
- Bergamot, notes on extraction, prices, and adulteration of oil, 1898, 386.
- Berkshire Agricultural Society, memorial to Congress for national board of agriculture, 1899, 162.
- Berlin, average wholesale price of beef and mutton, 1895, 24.
 disappearance of rabies, cause, 1900, 244.
- Bermuda, early shipment of fruit to Jamestown colony, 1897, 310.
 grass as soil binder, 1894, 435.
 germinating power of seed, 1898, 479.
 note on usefulness in lawn making, 1897, 358.
 seed, notes on discoveries as to sowing, 1900, 31.
 peach maggot, injury to crop, 1897, 548.
- Berries, packages for marketing, notes, 1900, 451.
- Berry moth, grape, 1895, 402.
- Bert, Paul, experiments in killing anthrax germs, 1899, 119.
- BESSEY, ERNST A., and HERBERT J. WEBBER, article on "Progress of plant breeding in the United States," 1899, 465-490.
- Beta vulgaris* (Swiss chard), culture and use as a pot herb, 1895, 206.
- Betula lenta* (sweet birch), use for wintergreen oil, 1898, 396.
- Beverages imported, inspection suggested, 1894, 12.
- Bibliography of economic entomology, note, 1900, 28.
 meteorology, note, 1899, 87.
 publications on San Jose scale, note, 1899, 143.

- Bicycle, note as to diminution of weight, 1898, 295.
 travel, range of grades of roads, 1900, 184.
 usefulness of steel-track wagon road, 1898, 294.
- Biennial and annual plants in seed growing, 1899, 563.
- Big tree, range, uses, etc., 1897, 655.
- BIGELOW, F. H., article on "Cyclones, hurricanes, and tornadoes," 1898, 525-534.
 "Work of the meteorologist for the benefit of agriculture, commerce, and navigation," 1899, 71-92.
 Professor, remarks on hot spells and hot waves, 1900, 334.
- BIGELOW, W. D., article on "The use and abuse of food preservatives," 1900, 551-560.
- Billings, Mont., note on drainage of alkali lands, 1898, 502.
- Biloxi, Miss., packing and canning of figs, 1897, 317.
- Biltmore, N. C., success of systematic and conservative forestry methods in production of firewood, 1900, 366.
 systematic management of forest of G. W. Vanderbilt, 1899, 422.
- Biochemic Division, Bureau of Animal Industry, method of preparing tuberculin, work, 1897, 25; 1898, 111.
- Biological Survey Division, establishment, 1899, 264. (*See also* Ornithology.)
 publications, 1897, 628; 1898, 603; 1899, 679; 1900, 689.
 result of fourteen years' work, 1899, 267,
 review of work for farmer, by C. Hart Merriam, 1897, 115-122.
 work, organization, duties, 1896, 557; 1897, 32, 620; 1898, 10, 32-34, 495; 1899, 10, 16, 669; 1900, 12, 45-46, 635.
 experimental, 1894, 204.
 note on study of life zones and of animal habits, 1898, 10.
 provision for systematic, 1894, 206.
 review of work on value of birds, 1899, 264-267.
 test of disease, notes, 1900, 224.
- Birch, range, uses, etc, 1897, 667.
 sweet, use for production of wintergreen oil, 1898, 396.
- Bird day in schools, note on establishment, 1899, 267.
 diet, various articles, 1894, 239.
 food, seeds, 1894, 245.
 stomachs, study, 1899, 16, 264.
- Birds and game, organizations, officials, protection, 1899, 710, 717; 1900, 664, 671.
 mammals, food inquiry, 1894, 43; 1897, 121; 1898, 33.
 as weed destroyers, article by Sylvester D. Judd, 1898, 221-232.
 beneficial, study by Biological Survey, 1899, 266.
 bounty laws for destruction, 1899, 279-282.
 commercial uses, discussion, 1899, 267-278.
 common, of the farm and garden, article, 1895, 405.
 destruction by mongoose in Jamaica, 1898, 94.
 wild house cats, 1898, 90.
 effect upon orchard, article by F. E. L. Beal, 1900, 291-304.
 game, discussion of use of weed seed as food, 1898, 231.
 grain-eating, more important, 1897, 346.
 harmful to orchards, discussion, 1900, 302.
 in Mississippi Valley, destruction of grain, 1897, 350.
 investigations of value, 1899, 261-267.
 measures for destruction, introduction and protection, 1899, 278-290.
 protection, 1899, 282-287.
 nestling, food, article by Sylvester D. Judd, 1900, 411-436.
 note on immunity of ladybirds from attacks, 1898, 252.
 noxious, and animals, danger of introducing, article by T. S. Palmer, 1898, 87-110.
 of Nebraska, study, 1899, 262.
 prey, food habits, 1894, 217.
 help to fruit grower by killing mice and rabbits, remarks, 1900, 299.
 list and notes, 1895, 590.
 prejudice, 1894, 215.
 Wisconsin, investigation, note, 1899, 263.
 rapacious, some characteristics, 1894, 216.
 stomachs, examination, 1897, 33.
 study of food and protection, notes, 1900, 145.
 summary of observations on destruction of weed seeds, 1898, 232.

- Birds, supposed injurious, investigations of Biological Survey, 1899, 265.
 that injure grain, article by F. E. L. Beal, 1897, 345-354.
 use of seed of weeds on vacant city lots, 1898, 196.
 useful and harmful, list, 1897, 670.
 young, food and relation to fruit growing, remarks, 1900, 298.
- Bird's-foot trefoil, number of seeds per pound, amount to sow, etc., 1894, 570.
- Bird-seed mixtures, use of millet seed, 1898, 288.
- Biscayne Bay, establishment of experimental factory for sisal hemp, 1897, 230.
- Bisulphide of carbon, fumigation for weevil (*see also* Carbon), 1898, 237.
 lime, use as insecticide, 1897, 640; 1898, 662.
 preparation and use as insecticide, 1894, 576.
 remedy for grapevine phylloxera, 1895, 389.
 use against insects in stored grain, 1899, 152.
- Bitter almond, imports, prices, varieties, extraction of oils, etc., 1898, 392.
 panic grass as soil binder, 1894, 429.
 description; suggestion for binding sands, 1898, 414.
- Black alkali in soil, effect on plants, 1898, 501.
 cherry, range, uses, etc., 1897, 661.
 Col. William L., estimate of number of Angora goats, 1898, 436.
 fallow in connection with Russian wheat growing, 1900, 540.
 grass, characteristics, 1895, 331.
 Hills Forest Reserve, notes on working plan, 1900, 51.
 knot of plum and cherry, treatment, 1894, 577.
 locust, tree suitable for alkali soils, 1895, 121.
 usefulness on waste spaces of farm, 1896, 337.
 mustard. (*See* Mustard, black.)
 rat, notes on history and distribution, 1898, 92.
 rot of grapes, treatment; work of Department, 1894, 577; 1897, 107.
 scale as food of California bush-tit, note, 1900, 296.
 attacks upon olive in United States, 1896, 389.
 destruction by heat of climate, 1896, 218.
 eradication by ladybirds on Cooper Ranch, California, 1896, 224.
Lecanium oleæ, distribution, description, life history, and control, 1900, 272.
 method of injury and region of operation, 1896, 220.
 methods of extermination, 1900, 249, 257.
 season of hatching and measures for destroying, 1896, 221.
 year for fumigation, 1896, 228.
- Spanish chickens, description and advantages, 1896, 466.
- walnut, growth on the Western plains, 1895, 346.
 range, uses, etc., 1897, 659.
- Blackberries and raspberries, uses and methods of pruning, 1898, 161.
 development of native varieties, 1896, 300.
 improvement, remarks, 1899, 481.
- Blackberry, culture, development, 1895, 292; 1896, 300; 1899, 481.
 note on hybridization with raspberry, 1897, 407.
- Blackbird, note on eating of weed seed, 1898, 222.
- Blackbirds and their allies, eating of weed seed, 1898, 230.
 cause of increased numbers, 1897, 346.
 crow. (*See* Crow blackbirds.)
 food for young, 1894, 245; 1900, 422.
 grains and fruits as food, 1894, 242.
 notes on range and habits, 1897, 348, 349.
 study by Biological Survey, 1899, 266.
- Blackleg and anthrax, comparison, 1899, 123.
 descriptions from observation, 1899, 121.
 investigation, 1898, 28.
 loss, remarks by Secretary, 1899, 49.
 or anthrax, plans for prevention, 1897, 24, 254; 1899, 124.
 remedy, 1899, 124.
 (symptomatic anthrax), discussion, 1899, 120-124.
 vaccine, preparation and distribution, remarks of Secretary, 1900, 18.
 work of Bureau of Animal Industry, 1899, 454.
- "Blady grass" as soil binder, 1894, 435.
- Blakeslee, O. S., work on calorimeter, 1899, 409, 410.
- Blastophaga (fig insect), carrying through the winter, 1900, 86.
 fertilization of Smyrna figs; early attempts at introduction,
 1900, 81, 82.

- Blastophaga grossorum*, note on probable usefulness in fig industry, 1899, 154.
 remarks on importation for fertilization of figs, 1899, 15.
 life history, 1900, 100-104.
- Blastophagas, generations and relations to caprifigs, 1900, 90, 96, 97.
 successful importation by Department of Agriculture; losses, 1900, 83, 89.
- Blight, disease of the pineapple, 1895, 282.
 increased susceptibility of pear by reason of high fertilizing, 1900, 380.
 leaf, of pear, treatment, 1894, 578.
 tree, immunity of northern United States, 1900, 388.
 susceptibility of certain fruits, 1897, 109.
 methods of combating, 1897, 105.
 of pear and apple, note on cause and remedy, 1899, 193.
 effect of high fertilization and pyramidal form of pruning, 1900, 380, 381.
 remedies discussed, 1895, 295; 1900, 390.
 potato, treatment, 1894, 578.
- Blights of fruit and leaf, notes for 1898, 1898, 652.
- Blissus leucopterus*, and blister beetles, remedies, 1894, 573.
- Blister beetles, notes on history and remedies, 1898, 249-251.
- Blizzard, effect on development of Texas fever in cattle, 1898, 466.
- Blood corpuscles, red, study in Texas fever investigation, 1899, 132.
 remarks on efforts to discover circulation, 1899, 94.
 use in inoculations of anthrax, 1899, 115.
- Blossom, apple, description, 1898, 175.
 buds, point of attack of scab of pear tree, 1900, 388.
 of pear, description, 1898, 168.
 quince, description, 1898, 178.
- Blount, A. E., improvement of wheat, 1899, 487.
- Blow-out grass, range and value, 1900, 592.
- Blue grama and side oats, remarks, 1899, 357.
 as means of reclaiming range lands, 1899, 29.
 distribution and usefulness, 1900, 590.
- grass, Kentucky, usefulness, 1897, 358; 1900, 584.
 sand, usefulness, as sand binder, 1898, 419.
 seaside, description; usefulness for binding sands, 1898, 416.
 note on use, 1899, 30.
 recent discovery of Division of Agrostology, 1899, 354.
- seed, Kentucky, yield, notes, 1898, 482, 483.
 progress in methods of cleaning, 1899, 566.
 sowing for grazing in woodland, 1899, 421.
- grasses, notes on varieties and value, 1899, 355.
- gravel, note on use on roads, 1898, 321.
- gum tree of Australia, introduction by Mr. Saunders, 1900, 628.
- Hill Observatory, kite ascensions, 1898, 201.
- jay and its food, article by F. E. L. Beal, 1896, 197.
 characteristics and geographical distribution, 1896, 197.
 examination of stomachs, 1896, 199.
 fondness for nuts, 1896, 204.
 summary as to usefulness, 1896, 206.
 susceptibility of training, etc., 1896, 198.
- saltbush, notes, 1898, 543.
- stem grass as soil binder, 1894, 435.
 grasses, range, and value, 1900, 589, 593.
 value as a forage plant, 1895, 318.
- Bluebird, food of nestlings, 1900, 413.
- Boards of trade, list for United States, 1900, 752.
 publication of movements, etc., of agricultural products, 1899, 322.
 that publish commercial news, list, 1899, 758.
- Bobwhite, destruction of weed seed, 1898, 231.
- Boehm, R., note on isolation of cicutoxin, 1900, 313.
- Bogart, Eugene R., growing of vegetables in Alaska, 1898, 519.
- Boiling, effects upon potatoes, 1900, 343.
- Boleti, edible toadstools, notes on less common species, 1897, 466.
- Bollworm, or corn-ear worm, remedies, 1894, 573; 1898, 255.
- Bones as manure, value recognized by Davy, 1899, 212.
- Books. (See Libraries.)
- Boophilus bovis*, investigation of connection with Texas fever, 1899, 131.

- Borax and boric acid, use in food preservatives, 1900, 555.
- Bordeaux mixture, accidental discovery, 1899, 195.
as remedy for blister beetle, 1898, 250.
formula for fungicide, 1894, 579; 1897, 675.
use in spraying for diseases of pear, 1900, 388, 389.
- Borden, Gail, origination of condensed-milk industry, 1899, 389.
- Borer, flat-headed apple tree, remedies, 1894, 572.
peach tree, squash, and sugar-cane, remedies, 1894, 574.
- Boric acid and borax, medicinal dose, 1900, 556.
- Bortnovsky, Rev. Ivan, observations on stock raising in Alaska, 1898, 521.
- Boston, method of lawn making, 1897, 368.
Public Library, agricultural books, 1899, 506.
- Botanic garden, note on establishment at Harvard, 1899, 161.
- Botanical classification of pears, remarks, 1900, 369.
investigations, annual review, 1897, 50.
studies, usefulness of weeds, 1898, 196, 198.
survey at Sitka and Cook Inlet, Alaska, 1898, 50.
- Botanist of Department of Agriculture, seed testing, 1899, 572.
- Botany, Division, exhibit at Atlanta Exposition, 1895, 511.
information as to distribution of weeds, 1897, 95.
note on systematic work of experiment stations, 1899, 535.
publications, 1895, 618; 1896, 642; 1897, 629; 1898, 603; 1899, 697; 1900, 690.
reports of investigations, 1897, 97.
review of work for the farmer, by F. V. Coville, 1897, 90.
work in introduction of plants and in seed testing, 1898, 11.
of the year, 1894, 44.
organization, and duties, 1894, 524; 1895, 43, 525; 1896, 557; 1897, 50, 621; 1898, 11, 54-56, 595; 1899, 9, 16, 669; 1900, 11, 28-31, 635.
- Bottom lands, liability to frost, 1897, 63.
- Bouley, H., admission of error regarding contagion of glanders, 1899, 99.
inoculation of cow with eruptive diseases of horse, 1899, 107.
remark on Delafond's report of enzootic diseases at La Beauce, France, 1899, 116.
views as to origin of glanders, 1899, 97.
- Bounties for mongoose in Hawaiian Islands, failure, 1898, 95.
- Bounty against noxious animals, 1896, 60, 64, 67, 68.
demands for extermination of noxious animals, 1896, 55.
difficulty of regulating rate, 1896, 62.
for destruction of English sparrow in Bermuda, 1898, 100.
frauds in proof, 1896, 63.
laws for destruction of birds, 1899, 279-282.
increase since 1866, results, 1896, 58.
table of recent payments in five States, 1896, 60.
legislation, history in United States, 1896, 57.
system, drawbacks in use to exterminate noxious animals, 1896, 56.
expenses and losses, 1896, 59.
objections in detail, 1896, 61.
- Boussingault, note on work in agricultural chemistry, 1899, 219.
study of nitrogen as plant food, 1899, 247.
- Bouteloua curtipendula* (grama grass) as a forage plant, 1895, 315.
(grama grasses), distribution and usefulness in treeless region, 1900, 590.
hirsuta, and *oligostachya*, characteristics, 1895, 316.
- Boutet, report of study of disease at La Beauce, France, 1899, 116.
- Bovine tuberculosis, information, 1894, 37, 317, 319, 322, 324, 329.
- Box elder and ash, experiments in introduction in Minnesota, 1897, 158.
range and uses, 1897, 666.
utility and growth on the Western plains, 1895, 344, 346.
- BRACKETT, G. B., article on "Utilizing surplus fruits," 1898, 309-316.
review of work of Division of Pomology, 1897, 111-115.
- Brady, John G., note on garden in Alaska, 1898, 516.
- Brahma chickens, comparison of male and female, 1896, 449.
varieties, descriptions, advantages, and weights, 1896, 448.
- Brambles, native, need of development, 1896, 304.
- Bran, shipments abroad, 1899, 47.
- Bran-arsenic bait, preparation and use, 1898, 659.
mash, use against cutworms in tobacco, 1898, 141.

- Brandy, orchard, manufacture from pomace, 1898, 315.
production in California, growth, 1898, 560.
- Brassica* spp. (cabbage etc.), remarks on uses, 1895, 199, 202, 203, 207, 210, 211.
- Brazil, four-spotted bean weevil, 1898, 246.
notes on tobacco exhibit at Paris Exposition, 1900, 158.
or cream, nuts, imports, 1897, 339.
- Bread, adulteration, note, 1894, 46; 1899, 236.
average composition, 1897, 678.
composition, cost, and fuel value per pound, 1894, 40.
difference from hard and soft wheat flour, 1899, 216.
making, note on use of skim milk, 1897, 514.
relative cost of homemade and bakers', 1898, 447.
stale, cheapness, and nutritive value, 1898, 449.
supply, world's, relation of Russian crop failure, 1900, 175.
wheat, Russian varieties for trial in the United States, 1896, 493.
- Breadstuffs and substitutes, scarcity in Europe in 1891, remarks, 1900, 170.
exports, 1895, 544; 1896, 586; 1897, 738; 1898, 714; 1899, 831; 1900, 849.
imports, 1895, 548; 1896, 591; 1897, 738; 1898, 707; 1899, 824; 1900, 842.
in Europe in 1889, relation of Argentina and United States to shortage, 1900, 176.
relation of American wheat crop to world's supply, 1900, 169.
- Breeder, American, as a personality, remarks, 1899, 640, 641.
work in improving live stock, article by John Clay, jr., 1899, 627-642.
- Breeders' associations, 1898, 613-616; 1899, 691-697; 1900, 645-653.
early, of cattle, some of difficulties, 1899, 628.
- Breeding (ancestry), importance in selection of seed, 1896, 309.
and dairy cattle, notes on restrictions in traffic, 1900, 20.
cotton, note on proposed work, 1899, 18.
important ages and periods, 1900, 740.
importation of animals, statistics, 1900, 17.
incestuous, effect on breeds of cattle, 1899, 635.
new era accompanying use of pedigree, 1899, 634.
of live stock, remarks on uniformity, 1899, 641.
plants. (See Plant breeding.)
processes, 1898, 264, 355, 364; 1899, 200.
—roses, lemons, and oranges, notes, 1898, 376.
use of tuberculous animals, 1898, 118.
- Breeds, battle in improvement of cattle, 1899, 636.
beef, three leading, remarks, 1899, 633.
of cattle in Hawaiian Islands, notes, 1898, 576.
- Breese, Albert, production of Early Rose potato, 1899, 485.
- Bremen and Hamburg, shipment of California brandy, 1898, 561.
- Brewer, William H., and Samuel W. Johnson, early work for agriculture, 1899, 515.
- Bridges, note on expense of building and maintenance, 1900, 187.
- BRIGGS, LYMAN J., article on "Movement and retention of water in soils," 1898, 399-404.
"Objects and methods of investigating certain physical properties of soils," 1900, 397-410.
- Bright-yellow tobacco, remarks on Paris Exposition exhibit and first growing, 1900, 164.
- Brinckle, Dr., experiments in improving raspberries, 1899, 481.
- Brine, boiling, use in drying figs, 1900, 94.
- British butter supply, sources, 1897, 276.
cheese, award at Paris Exposition, 1900, 616.
Dairy Farmers' Association Journal, skim milk, 1897, 513.
India, limit of rainfall for profitable tea culture, 1897, 195.
markets, American dairy products, 1899, 464.
note on experimental shipments of butter, 1897, 256.
railway companies, freight rates, 1899, 663.
- Broad-leaved trees, description, classes, etc., 1897, 655-669.
- Broad-winged hawk, notes, 1894, 222.
- Brocton (Chautauqua) systems of training grapevines, 1896, 514, 516.
- Brome grass, awnless, notes on seed, 1894, 569; 1898, 480, 491.
Hungarian, comments on, 1894, 435; 1900, 141, 144.
grasses, varieties and uses, 1899, 358.
smooth, note on vitality, 1899, 29.
soft, points of distinction from awnless brome, 1898, 491.

- Bromus inermis*, note on introduction, 1900, 140.
 notes on grass and seed, 1894, 569; 1898, 491.
- Brooklyn, N. Y., steam spraying machine in Prospect Park, 1896, 81.
- Brooks, W. P., application of name "barnyard millets," 1898, 276.
- Broom corn, exports, 1891-1895, 1895, 544. (*See also* Exports.)
 Scotch, use in binding sands, 1898, 411.
 sedge, slender, note, 1895, 327.
- Broom-corn millets, discussion, 1898, 281-283.
- Brown, R. T., note on appointment as Chemist of Department, 1899, 239.
- Brown thrasher, distribution and food habits, 1895, 411.
 food of nestlings, 1900, 415.
- Brown-top (creeping bent), notes, 1895, 330.
- Bruchus obtectus*. (*See* Bean weevil.)
 See also Pea.)
 species, notes, 1898, 242, 245, 247, 248.
- BRYANT, A. P., article on "Some results of dietary studies in the United States," 1898, 439-452.
- Bubo virginianus* (horned owl), feeding habits, 1900, 300, 430.
- Buchloe dactyloides* (buffalo grass), value as a forage plant, 1895, 316.
- Bucket pump, use in irrigation, 1896, 182.
- Buckham, President, of Vermont University, remarks on purposes of Morrill land grant, 1899, 170.
- Buckwheat, area in crop, changes from 1879 to 1889, 1895, 528.
 effect of different temperatures on germination, 1895, 178.
 price on the farm, December 1, 1895, 532; 1896, 573; 1899, 796.
 statistics, 1897, 711; 1898, 679; 1899, 762, 768, 786, 791; 1900, 793-796.
- "Bud sports" in plant breeding, notes, 1898, 357.
- Bud worms, description; injuries to tobacco; remedies, 1898, 132.
- Budding of citrus fruits, information, 1896, 477, 480, 481, 482, 484.
 use with olive in California, 1896, 376.
- Buds, note on improvement of plants by selection, 1898, 372.
 of pear, danger of breaking in plowing, 1900, 377.
- Buffalo gnat and buffalo moth (carpet beetle), remedies, 1894, 573.
 grass and grama grass, analysis, 1895, 317.
 distribution, turf-forming character, and natural vigor, 1900, 592.
 success in grass garden of Department, 1895, 44.
 usefulness in lawn making, 1897, 359.
 value as a forage plant, 1895, 316.
 N. Y., report of health department on outbreak of rabies, 1900, 215.
- Bug, harlequin cabbage, remedies, 1894, 573.
 mealy, injury to pineapples, 1895, 282.
 squash, remedies, 1894, 574.
- Buildings and fences, farm, table of values, 1897, 580.
 better, needs and reasons, 1894, 62.
- Bulbilia dactyloides* (buffalo grass), remarks, 1900, 592.
- Bulgaria, growing of roses for perfumery, 1898, 381.
- Bulgarian cheese, award at Paris Exposition, 1900, 616.
- Bull, Ephraim, discovery and improvement of Concord grape, 1899, 476.
 for dairy herd, treatment, 1894, 299.
 thistle as food of goldfinch, 1898, 229.
- Bulletins, early issues by divisions of Department, 1897, 213.
 Farmers' list, 1894, 587.
 notes on first issue and purpose, 1897, 214.
 issue by Weather Bureau during crop-growing season, 1897, 67.
 reduction of Congressmen's quotas, 1897, 53.
- Bunch grass, or June grass, value as a forage plant, 1895, 317.
 unfit for lawns, prevalence in West, 1897, 358.
 grasses and grass forming sod, notes, 1900, 582, 588, 592, 594.
 value on alkali soils, 1900, 595, 596:
 wire, range and value, 1900, 593.
- Bunt in wheat, success with preventives, 1896, 496.
- Burbank, Luther, production of varieties of plums by hybridization, 1899, 480.
- Bureau of Animal Industry, authority and work given by act of establishment, 1899, 441.
 blackleg work, 1899, 454.
 commendation by Fort Worth convention of cattlemen, 1898, 456.

- Bureau of Animal Industry, dairy work, 1897, 256.
 distribution of vaccine for blackleg, 1899, 49, 124.
 exhibit at Atlanta Exposition, 1895, 507.
 inspection service, 1899, 456-464.
 meat inspection, 1897, 19, 249.
 organization of Dairy Division, 1895, 14.
 and duties, 1894, 523; 1895, 524; 1896, 556;
 1897, 619; 1898, 594; 1899, 668; 1900, 10;
 634.
 outline of scientific work, 1895, 14.
 publications, 1895, 617; 1896, 640; 1897, 629; 1898, 603;
 1899, 678; 1900, 688.
 reasons for establishment, 1897, 238.
 regulations for testing cattle with tuberculin, 1898, 116.
 relation of pleuro-pneumonia to creation, 1899, 112.
 removal of quarantine from dipped cattle, 1898, 469.
 Report, note as to annual report, 1897, 206.
 review of work, by D. E. Salmon, 1897, 236-258.
 statement of the Secretary on the work, 1895, 9; 1897,
 19-29; 1898, 12, 23, 28; 1899, 11, 48-53; 1900, 10, 15-28.
 Texas fever investigations, 1897, 240-244; 1898, 455,
 456; 1899, 448-452.
 triumph in eradication of pleuro-pneumonia, 1899, 442.
- Weather. (See Weather.)
- Burley tobaccos, note on production in Italy, 1900, 159.
 white and export tobaccos, note on position in trade, 1900, 164.
- Burrill, T. J., note on articles on parasitism of fungi, 1899, 193.
- Burrowing owl, notes, 1894, 225.
- BURROWS, ALVIN T., article on "Hot waves: conditions which produce them, and
 their effect on agriculture," 1900, 325-336.
- Burs as means of distribution of weed seeds, note, 1898, 195.
 methods of distribution of seeds by animals, 1896, 272.
- Bursera gummiifera* (gumbo-limbo), injury by freezes in Florida in 1894-95, 1895, 173.
- Bussey Institution, work for agriculture, 1899, 227.
- Butcher bird, habits and relation to orchard, 1900, 301.
- Buteo* spp. (hawks), feeding habits, 1900, 429.
- Butter, advances of price in United States and London, 1897, 16.
 American, improvement of reputation, 1897, 14.
 analyses, 1895, 448, 452.
 and cheese factories, notes, 1899, 384, 387.
 as carrier of infectious diseases, 1895, 431.
 awards at Paris Exposition of 1900, 1900, 608, 609, 614.
 cheese, and cream, notes on experimental shipments, 1900, 22.
 contracts abroad for entire products, 1897, 17.
 Danish, note on adaptation to tropical markets, 1899, 47.
 experimental exports, 1897, 12, 256.
 exports. (See Exports.)
 remarks by Secretary, 1899, 52.
 to United Kingdom, 1894, 18.
- fat, chemical study, 1899, 744.
- imports. (See Imports.)
 into United Kingdom from various countries, 1893-1895, 1895, 30.
- improvement in quality, 1899, 401.
- in Porto Rico, lack, 1898, 509.
- list of varieties, 1899, 330.
- making, growth and changes, 1899, 400.
 States, important, list, 1899, 401.
- milk and cheese, early methods, 1899, 382, 383.
- observations by Secretary on investigation of European markets, 1898, 15.
- our exports, review, 1897, 276.
- packages for London market, 1897, 15.
- price in Rutland, England, 1898, 584.
- proposed inspection for export, 1897, 23.
- shipments, statement by Secretary, 1898, 14.
- substitutes, 1895, 445; 1899, 244.
- suggestion by Secretary for reputation in foreign markets, 1898, 16.
- trade abroad, growth and condition, 1897, 13.
- wholesale prices, 1899, 811; 1900, 826.
- workers, various models, 1899, 390.

- Butterine, analysis by James A. Emery, 1895, 452.
- Buttermilk and its uses, 1897, 523.
- Butternut, range, uses, etc., 1897, 659.
- Buttonwood, note on usefulness for street trees, 1898, 159.
- Buzzard, turkey, food of nestling, 1900, 431.
- By-products at Paris Exposition, exhibit of United States, 1900, 623.
 - in starch making, value, 1899, 253.
 - of dairying, remarks, 1899, 401.
 - the dairy, utilization, article by Henry E. Alvord, 1897, 509-528.

C.

- Cabbage, black rot, study in Department, 1898, 263.
 - bug, harlequin and cabbage worms, remedies, 1894, 573.
 - family, fertilization, 1896, 213; method of testing seed, 1897, 447.
 - notes on disease in 1898, 1898, 652.
 - practice of Long Island growers in selection of seed, 1898, 363.
 - Russian, note on introduction, 1900, 141.
 - seed, effect of different temperatures on germination, 1895, 178.
 - soil adapted, 1894, 133.
- Cabuya fiber, note on introduction in United States, 1897, 199.
- Cactus plains in Texas, character and grasses, 1900, 589.
- Cadelle, notes, 1894, 290.
- Calamagrostis canadensis* (blue stem), value as a forage plant, 1895, 318.
 - confinis* and *C. calamovilfa longifolia* (sand grass), value as forage plants, 1895, 318.
 - hay grass in Alaska, 1897, 562.
- Calandra granaria* (granary weevil), notes, 1894, 279, 573.
 - oryza* (rice weevil), notes, 1894, 280, 573; 1898, 122, 148.
- Caldwell, G. C., work for agricultural chemistry, 1899, 228, 229.
- Calhoun, John C., speech in favor of a national system of roads, 1899, 373.
- California and Colorado, cooperative colonies, 1899, 593.
 - as hemp-producing State, note, 1897, 235.
 - beginning and development of commercial citrus fruit growing, 1897, 321.
 - bush tit, relation to fruit growing, 1900, 296.
 - character of public lands, their water supply, and irrigation, 1898, 339.
 - climate and soil characteristics, and irrigation methods, 1895, 475.
 - conditions similar to Sicily for olive culture, 1896, 377.
 - control of noxious insects, 1896, 217.
 - cooperation of State institutions in irrigation investigations, 1900, 65.
 - cultivation of dates, 1900, 58, 464, 466, 484, 486.
 - description of soil samples, 1897, 439.
 - devastating locust, remedies, 1894, 573.
 - development of agriculture as example of scientific methods, 1897, 119.
 - raisin industry, 1898, 560.
 - early irrigation, 1899, 591.
 - effect of refrigeration on fruit industry, note, 1900, 577.
 - experiment station, notes on introduction of new crops, 1900, 138.
 - report on soil moisture in drought, 1898, 403.
 - fruits, improvement in shipment, 1900, 574, 576, 579.
 - in English markets, remarks by Secretary, 1895, 48.
 - grape culture, article by George Husman, 1898, 551-562.
 - greasewood, description, etc., 1898, 548.
 - growth of almonds, 1898, 392; of saltbush, 1898, 540.
 - horticulturists' desire for quarantine, 1897, 541.
 - how irrigation is practiced, 1895, 482.
 - injustice to reputation of wines, 1898, 552.
 - introduction of chalcid fly parasite of black scale, 1900, 275.
 - mite of orange and lemon, 1900, 286.
 - olive, almond, etc., 1897, 317, 332, 335, 338.
 - orange worm and of insect for Smyrna figs, 1898, 31.
 - pyrethrum as crop, 1897, 99.
 - irrigated lands of San Joaquin Valley, 1897, 431.
 - lands, differences in production of grapes, 1898, 561.
 - mean and seasonal rainfall for certain points, 1897, 438.
 - method of olive culture for Coast Range hills, 1896, 378.
 - training grapevines, 1896, 507.

- California, note on progress in road building, 1897, 177.
 quarantine regulations against noxious animals, 1898, 108.
 rainfall in interior valley, 1898, 82.
 notes on possibility of growing lavender, thyme, rosemary, and marjoram for perfumery, 1898, 389-391.
 species of *Atriplex*, 1898, 546.
 operation of law for quarantine against insects, 1897, 551.
 original use of hydrocyanic-acid gas as insecticide, 1899, 150.
 plan for prevention of coulure among grapes, 1898, 265.
 possibility of production of attar of roses, 1898, 382.
 "currants" (grapes), 1897, 314.
 present condition of grape culture, article by George Husmann, 1898, 551-562.
 prohibition of importation of flying fox, 1898, 97.
 public lands, 1898, 326, 330.
 rain warnings by telegraph, 1897, 65.
 rainfall of the valleys, 1895, 477.
 ravages of phylloxera and Anaheim disease, 1898, 554.
 quails in wheat fields, 1897, 352.
 red scale, distribution, varieties, and method of control, 1900, 268.
 report on effect of irrigation of palms in late summer, note, 1900, 472.
 restraint of spread of Russian thistle, 1897, 96.
 soils, certain freedom from need of irrigation, 1897, 432.
 southern, note on climate for pineapple growing, 1897, 192.
 suggestion for cotton growing, 1897, 117.
 special cultural and climatic conditions, 1896, 217.
 spraying citrus orchards by steam, 1896, 70.
 thrift and longevity of olive, 1896, 371.
 treatment of scale insects, note, 1900, 249, 250.
 treeless region, grasses, 1900, 594.
 trial of slender saltbush, 1898, 541.
 University experimental work at College of Agriculture, 1899, 228, 514.
 sketch, 1898, 79.
 white oak, tree suitable for alkali soils, 1895, 121.
 Wine Makers' Corporation, figures on grape industry, 1898, 558.
 wines, early mistakes in production, 1898, 552.
 recognition in foreign markets, 1898, 556.
 tests and extension of trade, 1898, 557.
 work with olive and fig insects, 1900, 27.
 worst scale insects, 1896, 220.
- Caloptenus atlanis*, *C. devastator*, *C. femurrubrum*, and *C. spretus* (locusts), remedies, 1894, 573.
- Calorimeter, notes on forms and use, 1899, 409.
 respiration, special form devised at Storrs experiment station, 1899, 536.
- Caltha palustris* (marsh marigold), use as a pot herb, 1895, 210.
- Calves, amount and value of manure, 1896, 616; 1897, 688.
 and cows, skim milk as feed, 1897, 517, 525.
 young stock, care, 1894, 308.
 note on relation of time of birth to value, 1898, 454.
 number of carcasses inspected in 1892 and 1893, 1894, 68.
 statistics of inspection, 1896, 19; 1898, 23.
 use of millet seed, 1898, 288.
- Calving time and drying off of cows, 1894, 306.
- Camas, poison, species, habitat, damage to stock, remedies and preventive, 1900, 319-324.
- Camelina sativa* (false flax), seed used in producing oil similar to rape-seed oil, 1895, 202.
- Camphor and olives as new crops, 1897, 44.
 tree, introduction by William Saunders, 1900, 628.
 note on introduction through experimental gardens, 1897, 197.
- Campine chickens, varieties and description, 1896, 470.
- Cumtobrochis grandis* and *C. nebulosus*, scale-insect enemies, 1894, 253.
- Canada, advantage of dairy products in British markets, 1898, 16.
 dairy statistics, 1895, 464.
 exports of animals to United States, 1896, 23.
 bacon to United Kingdom, 1893-1895, 1895, 17.
 cattle to United Kingdom, 1893-1895, 1895, 23.

- Canada, exports of dairy products and eggs to United Kingdom, 1893-1895, 1895, 29, 30.
 - imports of live stock into the United States, 1895, 13.
 - inspection of imported animals, 1898, 26.
 - sheep, shipment to Great Britain, 1895, 25.
 - shipments of fruit under refrigeration to British markets, 1900, 580.
 - statistics of inspection of animals in export trade, 1900, 17.
 - system of government control of export of dairy products, 1899, 52.
 - thistle, notes on distribution, 1896, 281; 1898, 483.
- Canadian animals (hogs) inspection, note, 1899, 49.
 - cattle and sheep, export from American ports, 1896, 22.
 - cheese, award at Paris Exposition, 1900, note, 1900, 616.
 - field peas, 1895, 223, 224, 226, 227, 229, 230.
 - life zone, description, 1894, 210.
 - provinces, note on weather, reports, 1899, 89.
 - quarantine, note, 1897, 251.
- Canaigre, utilization through chemical research, note, 1899, 256.
- Canal (irrigation) building, corporate, remarks, 1899, 594.
- Canals, corporate, objections, losses, 1899, 596.
 - insufficiency for transportation, 1899, 643, 645.
- Canarsia hammondi* (apple-leaf skeletonizer), remedies, 1894, 572.
- Canary grass, reed, 1894, 433, 569.
 - wild, eating of weed seed, 1898, 229.
- Cane, average number of acres manufactured in Hawaiian Islands, 1898, 567.
 - lands in Hawaii, public, 1898, 349.
 - sugar in Porto Rico, note, 1898, 511.
- Cane-borer, grape, 1895, 393.
- Canker, fungi as sources in trees, 1896, 253.
- Cankerworm, remedies, 1894, 573.
- Cankerworms, recommendations of use of Paris green, 1899, 147.
- Cannabis sativa* (hemp), article on culture by Chas. Richards Dodge, 1895, 215.
 - production of oil from seed, 1895, 198.
- Canned meat, number packages stamped 1891-92, 1894, 67, 68.
- Canneries in Alaska, note, 1898, 524.
- Canning of fruit, discussion, 1898, 313.
 - pears, notes, 1900, 392.
 - preserving, and refrigerating, development, 1899, 328.
 - statistics for fruit and vegetables, United States, 1896, 595.
 - vegetable and fruit, statistics of the industry in United States, 1895, 552.
- Cannon, ineffectiveness in breaking tornado tube, 1898, 533.
- Cantal cheese, description and awards at Paris Exposition, 1900, 621.
- Cantharellus cibarius* (edible mushroom), description, etc., 1897, 463.
- Cantharis nuttalli* (blister beetle), notes, 1898, 250.
- Canvas dam, definition and use, 1900, 507.
- Capillary movement of water, 1898, 399; 1900, 410.
- Capital, farm, and product, averages, 1897, 588.
 - invested by English farm tenants, notes, 1898, 588.
 - relation to coffee industry in Hawaiian Islands, 1898, 570.
- Caprification of figs, information, 1897, 318; 1900, 90-92.
- Caprifig, or wild fig, importation and use of cuttings; number of crops, 1900, 80, 89, 96, 98.
- Capron, Commissioner, remarks on loss of animals, 1897, 236.
- Caraway, use and culture for perfumery and seed, notes, 1898, 396.
- Caraway-seed oil, price per pound, 1895, 204.
- Carbohydrates as ingredients of feeding stuffs, note, 1897, 422.
 - notes on relation to plant nutrition, 1899, 219, 221.
- Carbolic acid, remarks on use as disinfectant, 1896, 256.
 - substitutes as disinfectants, 1896, 256.
- Carbon anhydride, use in refrigeration, note, 1900, 567.
 - bisulphide, preparation and use as insecticide, 1897, 638; 1898, 659.
 - remedy for grapevine phylloxera, 1895, 389.
 - use against cigarette beetle, 1898, 146.
 - tobacco worms in barn, 1898, 131.
- Carbonic-acid gas, relation to plant growth, 1898, 196, 197; 1899, 219.
- Carbuncular fever. (*See* Anthrax.)
- Carcasses, reasons for condemning, 1894, 70.
- Card index and card catalogue of library, note, 1900, 72.
 - of experiment station literature, remarks, 1899, 528.

- Carduus arvensis* (Canada thistle), manner and extent of distribution, 1896, 266, 281.
lanceolatus. (See Bull thistle).
- Carey act, donation of arid lands to States, 1898, 351.
 for reclamation and disposal of public lands by States, 1899, 604.
- Caribbean Sea, Weather Bureau stations, 1898, 19; 1899, 9, 11.
- CARLETON, MARK ALFRED, article on "Improvements in wheat culture," 1896, 489-498.
 "Successful wheat growing in semiarid districts," 1900, 529-542.
- Carloads, freight rates, note, 1899, 661. (See also Transportation.)
- Carlson, Rev. A. E., note on garden at Unalaklik, Alaska, 1898, 520.
- Carnallite, occurrence and chemical composition, 1896, 121.
- Carnations, cause of disease known as bacteriosis, 1898, 264.
- Carolina bright yellow tobacco, comparison with Turkish leaf at Paris, 1900, 164.
 four-spotted bean weevil, 1898, 245.
- Carolinian life zone, description, 1894, 211.
- Carp, infection with tuberculosis from man, 1898, 119.
- Carpentry, kinds of wood and selection of lumber, 1896, 404.
- Carpet beetle (buffalo moth) and *Carpocapsa pomonella*, remedies, 1894, 573.
- Carpodacus mexicanus obscurus* (linnet), cause of loss of figs, 1900, 93.
- Carrot, conversion from annual to biennial, 1896, 102.
 wild, note on development by Louis de Vilmorin, 1898, 369.
- Cars, refrigerator, first patent; growth in numbers, 1900, 574, 577.
 wagons, etc., use of timber, 1896, 408.
- Cascade Forest Reserve of Oregon, notes on sheep grazing, 1898, 54, 187.
- Casein from skim milk and its uses, 1897, 521.
 per cent in different varieties of cheese, 1895, 456.
- Cashmere goats, protection by fleece against cold, 1898, 424.
- Cassie, or opoponax, use for perfumery, 1898, 394.
- Castilleja elastica* (rubber plant), note, 1899, 62.
- Castor bean, cultivation, notes, 1895, 190, 192.
 oil, price per gallon, 1895, 204.
 uses and methods of extracting, 1895, 190, 191.
- Catalogues of Department library, notes, 1899, 44.
- Catalpa, growth on the Western plains, 1895, 346.
 hardy, notes on planting and use, 1900, 146, 149, 150, 151.
 range, uses, etc., 1897, 663.
- Catawba grape, origin, 1899, 475.
- Catbird, distribution and food habits, 1895, 405, 406.
 relation to small fruit orchard; nestlings, 1900, 303, 416.
 table showing stomach contents, 1895, 418.
- Caterpillar, salt-marsh, subject of early paper by T. W. Harris, 1899, 136.
- Caterpillars as orchard pests and their destruction by cuckoos, 1900, 297.
 descriptions, injuries to legumes, and remedies, 1898, 257.
- Cathartes aura* (turkey buzzard), food of nestling, 1900, 431.
- Cathartus gemellatus* (grain beetle), notes, 1894, 290.
- Catolaccus anthonomi* (fly), usefulness as parasite of cigarette beetle, 1898, 147.
- Cats, destruction of birds, 1898, 89.
- Cattle, act of Congress for general inspection, note, 1897, 248.
 securing proper transport by sea, 1897, 246.
 age, determination by teeth, 1899, 667.
 American, condition on arrival in Europe, 1896, 28.
 Glasgow market, 1895, 21; 1896, 28.
 and grasses, relative importance, 1895, 324.
 meat trade with Great Britain, 1895, 18; 1896, 24, 27.
 sheep, bloating from alfalfa and red clover, 1897, 497.
 from Argentina, 1896, 25.
 industries compared, 1899, 629.
 percentages of losses at sea, 1899, 459.
 use of gray bush, formation of balls in the stomach, 1898, 544.
 swine, early appropriation for investigation of disease, 1897, 237.
 antemortem inspections, 1891-1897, 1897, 20.
 appearance of disease with Gulf coast herds, 1897, 241.
 beef, experiments in feeding beet pulp, 1898, 216.
 exports to United Kingdom, 1894, 10.
 branding, effect on prices, 1896, 29.
 breeders' associations, 1898, 613; 1899, 691; 1900, 645.
 breeding, relation of short horns, discussion, 1899, 637.

- Cattle, causes of failure of various materials for dipping for ticks, 1898, 455, 456, 457, 458.
 comparison of freights to Liverpool, 1896, 27.
 United States with others for English market, 1896, 28.
 contagious pleuro-pneumonia, discussion, 1899, 109-113.
 cowpeas as feed, 1896, 292.
 dairy. (*See Dairy cattle.*)
 deaths from dipping for ticks, 1898, 460, 462, 465, 466.
 degrees of immunity from Texas fever, 1898, 467.
 diminution of infection with Texas fever during cold weather, 1898, 454.
 dipped, condition after trip from Texas to Illinois, 1898, 463.
 removal of quarantine restrictions, 1898, 469.
 dipping, experimental and practical, article by Victor A. Nörsgaard, 1898, 453-472.
 resolution of live stock sanitary boards at Omaha, 1898, 470.
 with oil for fever ticks, 198, 464, 456, 458.
 discussion of Texas fever, 1897, 240.
 diseased, from United States, charge made, 1894, 12.
 domestic, average price in English and Scotch markets in 1894 and 1895, 1895, 24.
 effect of branding on prices, 1896, 29.
 efforts at eradication of tuberculosis, 1897, 254.
 exports. (*See Exports.*)
 from Ireland to Great Britain for eight months in 1895, 1895, 23.
 "feeders," effect of superior quality of Texas grasses, 1897, 171.
 feeding, 1896, 609; 1898, 213-220; 1899, 232.
 fever, Texas, 1897, 240.
 food, usefulness of sorghum, 1898, 219; 1899, 243.
 foreign, protection against contagion, 1898, 613; 1899, 691; 1900, 645.
 freight rates, Chicago to New York, 1875-1896, 1896, 598.
 United States to Liverpool, 1896, 27.
 grazing on beach grass, 1898, 412.
 growing in Hawaiian Islands, 1898, 574.
 harmful effect of solid oil bath, 1898, 458.
 high-bred, arrangements for inspection for import, 1900, 20.
 immunity from injury by use of formaldehyde as disinfectant, 1896, 261.
 importance of good condition in dipping, 1898, 469.
 imported from Canada, 1895, 13.
 into United Kingdom, 1893-1895, 1895, 23.
 imports. (*See Imports.*)
 in Alaska, notes, 1897, 569, 571; 1898, 520-522.
 industry, discussion of extension, 1899, 627.
 infectious, efforts to separate in measures against Texas fever, 1899, 128.
 information on improvement of breeds, 1898, 576; 1899, 132.
 inoculation of Northern with blood of Southern cow, 1899, 132.
 inspection for export, 1894, 33; 1895, 11; 1896, 21; 1897, 21, 244; 1898, 25; 1899, 49, 456; 1900, 15, 17.
 killing of forests in Hawaii, 1898, 572.
 losses reduced in shipment; number inspected, 1894, 35.
 Mexican, imported and inspected, 1895, 13; 1896, 22.
 Northern, study of ticks in Texas fever, 1899, 131.
 note as to quarantine on Canadian frontier, 1897, 251.
 on ease and cheapness of vaccination, 1897, 255.
 remedy for Texas-fever ticks, 1898, 12, 28.
 notes on loss by dipping for ticks, 1898, 460, 462, 465, 466, 470.
 quarantine against Texas fever, 1897, 28; 1899, 128.
 success in dipping for fever ticks, 1898, 460, 471.
 testing with tuberculin, 1898, 116, 117.
 number of head in England in 1895, 1895, 18.
 lost in transit in 1895 and 1894, 1895, 12.
 numbers inspected, 1896, 19; 1897, 250; 1898, 23; 1899, 49; 1900, 16.
 objections to use of tuberculin in making tests, 1898, 117.
 of Argentina, shipment to Europe, 1893-1895, 1895, 20.
 offensiveness of sweet clover or melilotus, 1897, 504.
 on English farms, notes, 1898, 585, 586, 587, 588.
 owners and shippers, confidence in work of Bureau of Animal Industry, 1899, 444.
 percentage of loss by dipping for ticks in 1898, 1898, 470.
 in shipment, 1896, 22.

- Cattle, Porto Rican, susceptibility to Texas fever, 1899, 49.
 price in Great Britain in 1895, 1895, 18.
 problem of grading up as affected by Texas fever, 1899, 13.
 products, quality in competition, 1896, 27.
 profit as compared with cotton, 1897, 173.
 raising in Cuba, note, 1898, 671.
 Porto Rico, 1898, 509.
 ranges, forage problems, 1897, 42.
 of Southwest, note on overstocking, 1899, 349.
 reduction of insurance rates as result of inspection, 1899, 458.
 losses from blackleg by use of vaccine, 1899, 455.
 regulations for testing with tuberculin, 1898, 116.
 transportation for control of Texas fever, 1899, 449
 remedies for Texas fever and blackleg, 1898, 28
 report of Dr. Steddom on travel after dipping, 1898, 462.
 second Illinois experiment in dipping for ticks, 1898, 465.
 sensitiveness to solutions for killing Texas-fever ticks, 1898, 455.
 sheep and hogs, losses by disease in last census year, 1897, 238.
 shows in Massachusetts, 1894, 84.
 slaughtered on account of pleuropneumonia, payment of owner, 1899, 444.
 Southern inspection in quarantine against fever, 1897, 21.
 study of relations of ticks in Texas fever, 1899, 132.
 Texas fever, 1899, 124-134.
 statistics of inspection, 1896, 19; 1898, 23.
 1895, 533, 534; 1896, 574, 575, 576; 1897, 264, 734, 735; 1898, 702, 703;
 1899, 818, 820; 1900, 825-828.
 steps for improvement of breeds, 1898, 576.
 successful dipping at Mammoth Spring, Ark., 1898, 469.
 test of short travel after dipping, 1898, 464.
 Texas fever, discussion, 1897, 240. (*See also* Texas.)
 tick as transmitter of Texas fever, 1898, 454.
 Southern, problem of destruction, 1900, 21.
 tuberculosis, efforts at eradication, 1897, 254. (*See also* Tuberculosis.)
 use of Canadian field peas for food, 1895, 224.
 work against Texas fever of Bureau of Animal Industry, 1899, 448-452.
 young, immunizing in work against Texas fever, 1899, 134.
- Cavalry horses (French), spread of glanders, 1899, 97, 99.
 Cayey Range, mountains in Porto Rico, notes, 1898, 505.
 Ceara rubber tree, success of plantations, 1899, 62.
Cecidomyia destructor, remedies, 1894, 573.
 Cedar, cypress, and oaks, notes on studies, 1900, 53.
 incense, note on pin rot, 1900, 205.
 modifications in different soils, 1896, 94.
 ranges, uses, etc., 1897, 654.
 red. (*See* Giant arbor vitæ.)
 note on resistance to injury by fungi (*see also* Juniper), 1900, 201.
 waxwing, fruit eating; food of nestlings, 1900, 304, 417.
 white, notes on uses, 1900, 150.
- Cedars, growth in Alaska, 1897, 561.
 Cedrat oil, note on method of extraction, 1898, 385.
 Celery seed, use in producing oil, 1895, 204.
 Census, annual, agricultural, 1894, 57; 1895, 34.
 Federal, note on relation to crop-reporting system, 1899, 54.
 Office, policy in regard to farm property, etc., 1899, 321.
- Centennial Exposition, reference in report of chemist, 1899, 240.
 work of William Saunders, 1900, 628.
- Centrifugal method of mechanical analysis of soil, discussion, 1900, 399-400.
 pump, use in irrigation, 1896, 182.
- Cèpes (edible toadstools), note on importation, 1897, 465.
Cercospora nicotinae (Hessian fly), injury to tobacco, 1898, 124.
- Cereal crops and prices, discussion in article on wheat and rye, 1900, 167-182.
 relation of potash and phosphoric acid in fertilizer, 1896, 128.
 table showing average yield and value, 1897, 592.
 withdrawal of potash from soil, 1896, 114.
 work and cereals at Paris Exposition, remarks of secretary, 1900, 34.
- Cereals and their products, importance in furnishing nutrients, 1898, 446.
 early tests on Department grounds, 1897, 202.
 estimate of losses in United States by rusts and smuts, 1897, 103.

- Cereals, first crops, date, 1899, 309.
 flax, cowpeas, cotton, notes on diseases, 1900, 731.
 forage plants and flax in Alaska, notes, 1898, 518.
 improvement, remarks, 1899, 486.
 in Alaska, discussion, 1897, 568.
 note on study by chemist, 1898, 29.
 notes on introduction of new varieties, 1900, 32.
 preparation of alkali soils by planting saltbush, 1898, 539.
 statistics of production, 1899, 324. (*See also* Corn, Wheat, etc.)
 study by division of chemistry, 1899, 243.
 success in growing in Hawaii, 1898, 572.
 suggestion as to annual loss by injuries from birds, 1897, 345.
 for growing in certain States, 1897, 116.
 vegetables, and cotton, diseases, 1899, 751.
- Ceroplastes cirripediformis* (barnacle scale), description and distribution, 1900, 278.
floridensis (Florida wax scale), distribution and description, 1900, 277.
- Cerotoma trifurcata* (leaf-beetle), notes, 1898, 253.
- Chabert, remarks on anthrax, 1899, 109, 114, 121.
- Chætochloa and Panicum, notes, 1898, 268.
- Chafer, rose. (*See* Rose chafer.)
- Chaff of grass seed, description, 1898, 474.
 scale (*Parlatoria pergandei*), description and treatment, 1900, 270.
- Chalcid flies as destroyers of beetles, 1898, 242.
 fly, enemy of black scale, notes on introduction, 1900, 274, 275.
 parasites of weevil, 1898, 245.
- Channing, Tex., note on station for study of forage resources, 1898, 40.
- Chantarelle, parasol fungus, and fairy-ring fungus, description, etc., 1897, 463.
- Charbon, note on article by Renault and Reynal, 1899, 115.
 or anthrax, discussion, 1899, 113-120.
 study of rods by Delafond, 1899, 117.
- Charcoal, use of waste wood, 1896, 414.
- Chard, silver-ribbed, note on introduction and value, 1900, 141.
 Swiss, culture and use as a pot herb, 1895, 206, 207.
- Charlock (mustard) seed, uses, 1895, 202, 207.
- Charts of Weather Bureau, 1897, 67, 73.
- Chatham Islands, destruction of birds by domesticated animals, 1898, 90.
- Cheese, American, note on position in British markets, 1899, 464.
 and butter factories, remarks, 1899, 384, 387.
 manufacture from whey, 1897, 528.
 as carrier of infectious diseases, 1895, 431.
 at Paris Exposition of 1900, 1900, 615, 621, 622.
 butter, and milk, early methods, 1899, 382, 383.
 competition with frozen meat on London market, 1896, 26.
 composition of different varieties, 1895, 456.
 consumption per capita in the United States, 1895, 454.
 cream, and butter, notes on experimental shipments, 1900, 22.
 experiments in manufacture at Iowa Agricultural Experiment Station, 1895, 471.
 export trade, remarks, 1895, 461, 468.
 exports. (*See* Exports.)
 factories, disposal of whey, for milk sugar, 1897, 526.
 number in Canada, 1866, 1871, 1881, and 1891, 1895, 465.
 factory system introduced, 1895, 454.
 filled, remarks, 1895, 467; 1897, 520.
 imports. (*See* Imports.)
 into United Kingdom, 1893-1895, 1895, 26.
 in Porto Rico, note, 1898, 509.
 industry, growth in the United States, 1895, 453.
 influence of fat upon yield, 1895, 469.
 legislative safeguards, 1895, 471, 473.
 list of varieties, 1899, 330.
 loss of market in Great Britain, 1895, 29, 462; 1898, 16; 1899, 47, 52.
 making, growth and changes, 1899, 400.
 importance in Switzerland, note, 1900, 620.
 manufacture and consumption, article by Henry E. Alvord, 1895, 453.
 necessity of classifying and branding, 1895, 471.
 note on prices in England, 1898, 585.

Cheese, prices depreciated, 1895, 28.

production in 1849 to 1889, by decades, 1895, 453.

Canada in 1871 and 1891, 1895, 465.

proposed inspection for import, 1897, 23.

remarks on manufacture, 1897, 509.

skim, manufacture in America, 1895, 465.

trade, how to improve it, 1895, 468.

use in United States, 1895, 454, 456.

value of total product of United States, 1895, 454.

wholesale prices, 1899, 813; 1900, 827. (*See also* Prices.)

Chemical analyses of potato, notes, 1900, 338.

official, perverted references by advertisers, 1895, 42.

and physical investigations of soils, remarks by Secretary, 1899, 28.

composition of food materials, note on investigations, 1899, 405.

food preservatives, introduction and effect, discussion, 1900, 552.

investigations, proposed, 1897, 36.

research as to soils, 1899, 339, 341.

researches, nonagricultural, protest of Commissioner, 1899, 239.

substances in soil, statements by Sir Humphry Davy, 1899, 203, 204.

technology, agricultural, 1899, 253-258.

Chemicals for preserving milk, 1894, 332.

Chemist, remarks of Commissioner Newton on work, 1899, 237.

Chemistry, agricultural, lectures of Dr. Trommer, note, 1899, 226.

promises of advantages from full development, 1899, 245.

Division, comments by the Secretary, 1894, 45; 1895, 42; 1897, 34-38;

1898, 11, 29; 1899, 9, 14; 1900, 11, 23-27.

cooperation with Executive Departments, 1900, 25.

scientific investigators, 1897, 83.

discovery as to elements of humus in plants, 1899, 220.

establishment, remarks, 1899, 236.

lines of work since 1883, 1899, 242-246.

miscellaneous work, 1897, 82.

organization and duties, 1894, 524; 1895, 524; 1896, 556; 1897, 620; 1898, 594; 1899, 668; 1900, 634.

publications, 1895, 619; 1896, 643; 1897, 630; 1898, 604; 1899, 680; 1900, 690.

review of work for the farmer, by H. W. Wiley, 1897, 76-84.

study of soils, 1897, 78.

work of the year, 1894, 45; 1897, 34-38; 1898, 29-30; 1899, 14; 1900, 23-27.

on composition and adulteration of foods, 1897, 81.

in agriculture, note on work of F. H. Storer, 1899, 227.

Department of Agriculture, discussion, 1899, 235-246.

relations to agriculture, 1899, article by H. W. Wiley, 201-258.

at present time, discussion, 1899, 224-258.

review of early knowledge of relation to agriculture, 1899, 216.

rôle in agricultural colleges and experiment stations, 1899, 226.

*Chemists, important place in experiment stations, 1899, 227.

[of Department] reports, remarks, 1899, 237-242.

Official Agricultural, Association, notes on work, 1900, 25.

promotion of scientific agriculture, 1899, 229-231.

Chenopodium album (lamb's-quarters), description and use as a pot herb, 1895, 210.

anthelminticum (wormseed), use in producing oil, 1895, 204.

auricomum (blue saltbush), notes, 1898, 543.

bonus-henricus (mercury), use as a pot herb, 1895, 211.

leptophyllum, suggested use as a pot herb, 1895, 211.

fremonti, suggested use as a pot herb, 1895, 211.

Cherimoya, or Jamaica apple, injury by freezes in Florida in 1894-95, 1895, 172.

Cherries, two early kinds in America, note, 1899, 468.

Cherry, apple, pear, and plum, objects and methods of pruning, 1898, 162.

black knot and leaf-blight, treatment, 1894, 577.

black, range, uses, etc., 1897, 661.

borer of Australia, attack, etc., 1897, 548.

Crab, origin of apples for northern Mississippi region, 1899, 479.

notes on disease, 1897, 109.

CHESNUT, V. K., article on "Some common poisonous plants," 1896, 137-146.

"Some poisonous plants of the northern stock ranges," 1900, 305-324.

- Chess, distribution with seed wheat, 1896, 276.
- Chestnut and oak, annual growth at Oakland, N. J., 1895, 304.
 note on use for cross-ties, 1900, 150.
 range, uses, etc., 1897, 659.
- Chicago, dietary studies, 1898, 443.
 efforts for weather forecasting, 1899, 77.
 New York, freight rates by rail, 1898, 724.
 Public Library, agricultural books, 1899, 507.
- Chick-pea, notes on introduction, 1900, 140, 143.
- Chickadee, black-capped, food and food habits in relation to fruit growing, 1900, 295.
 difference in marking from kohlmeise, 1898, 104.
- Chickens, introduction of tuberculosis from man, 1898, 119. (*See also Poultry.*)
 some standard varieties, article by George E. Howard, 1896, 445.
 use of skim milk, 1897, 516.
- Chicory, description and use, as a pot herb, 1895, 207.
 farms, establishment as result of Department investigation, 1898, 55.
 prospective profit in growth in United States, 1897, 98.
 quantity and value of imports, 1891-1895, 1895, 549.
 reduction of importation, 1898, 11.
- Chief clerk, Department of Agriculture, duties, 1895, 523; 1896, 555; 1897, 619;
 1898, 593; 1899, 667; 1900, 633.
 of Weather Bureau, need of assistant, 1898, 22.
- Children and animals, inoculations with smallpox, 1899, 108.
 notes on relations to weeds in cities, 1898, 197, 198.
 suggestion for playgrounds in cities, 1898, 199.
- Chile saltpeter, notes, 1895, 88, 90.
- Chilocorus bifulnerus* (ladybird), efficiency against San Jose scale, 1894, 253; 1896, 227.
- China, early use of millet, 1898, 269.
 production of cotton, 1898, 684.
 seas, prospect for markets for dairy products, 1898, 15.
- Chinamen as cultivators of bananas in Hawaiian Islands, 1898, 571.
 rice growers in Hawaiian Islands, 1898, 568.
- Chinch bug and Hessian fly, investigations and bulletins, 1898, 32.
 remedies, 1894, 573.
- Chincha Island guano, notes, 1899, 274, 275.
- Chinese sand pear, character and use, 1897, 416; 1899, 478.
 tea plant, introduction, 1897, 194.
- Chionaspis furfurus* (bark louse), notes, 1894, 259.
- Chipping sparrow, food, 1898, 228.
- CHITTENDEN, F. H., article on "Asparagus beetles," 1896, 341-352.
 "Insects injurious to beans and peas," 1898, 233-260.
 "The more important insects injurious to stored grain," 1894, 277-294.
 observations of tobacco insects, 1898, 123, 145.
 Professor, note on nutrition investigations, 1899, 404.
- Chlorine, results of chemical study, 1899, 742.
 use as a constituent in potash fertilizers, 1896, 129.
- Chlorosis, hybridization as means of combating, 1897, 417.
- Chlorotic and lung diseases, use of whey, 1897, 528.
- Cholera, hog, bacteria, inefficiency of separators in removing, 1895, 440.
 experiments with serum, 1898, 27.
 treatment, remarks by the Secretary, 1899, 50; 1900, 18.
- Chondestes grammacus*. (*See Lark finch.*)
- Chondrilla, introduction and extent of distribution, 1896, 280, 282.
- Chrysanthemums, note of Vilmorin on experiment in breeding, 1898, 356.
- Chrysobothris femorata* (apple tree borer), remedies, 1894, 572.
- Chrysopa* spp. (lace-winged flies), enemies of scale insects, 1900, 253.
- Chrysophyllum oliviforme* (satin leaf), injury by freezes in Florida, 1894-1895, 1895, 172.
- Chung Tu Ying, death from mushroom poison, 1896, 146.
- Church, notes on millets, 1898, 270, 286.
- Churns, numerous patents, 1899, 391.
- Cicco disticha* (Otaheite gooseberry), injury by freezes in Florida, 1894-1895, 1895, 172.
- Cichorium intybus* (chicory), description and use as a pot herb, 1895, 207.
- Cicuta maculata*, *C. virosa bulbifera*, *C. vagans*, *C. bolanderi*, notes, 1896, 142.
 spp. (*See Water hemlock.*)
- Cicutoxin, poison compound from water hemlock, notes, 1900, 313.
- Cider, healthfulness; process of making, 1898, 314.

- Cigar filler and wrapper tobaccos, notes, 1900, 158, 159, 163.
 industry and Connecticut tobacco, 1899, 431.
 tobacco, notes, 1899, 432.
 types in United States leaf tobacco exhibit at Paris Exposition, 1900, 161.
- Cigarette beetle, foods and injuries, 1898, 144, 145.
- Cigarettes, beginning of manufacture, note, 1899, 430.
 usefulness of several kinds of tobacco, notes, 1900, 159, 164.
- Cigars, cigarettes, snuff, and manufactured tobacco, statistics, 1899, 438.
 note on injury by cigarette beetle, 1898, 145, 146.
- Cinchona barks, possibility of production in Hawaii, 1898, 572.
 hybrid, note on quinine content, 1897, 410.
 plants, note on distribution, 1897, 193.
- Circus hudsonius* (marsh hawk), manner of catching mice; food, 1900, 301, 429.
- Citric acid, note on manufacture from fruit injured by insects, 1900, 287.
- Citrus culture, problems under investigation, 1898, 265.
 fruits, extraction of oils for perfumery, 1898, 379.
 general remarks on propagation, 1896, 471.
 important insects, discussion, 1900, 262.
 information on budding, 1896, 477, 478, 479, 480, 484.
 insect enemies in California, 1896, 220.
 location, management, and cultivation of nursery, 1896, 474.
 losses in Florida, 1897, 103.
 method of forcing buds in grafting, 1896, 482.
 methods of propagation, article by Herbert J. Webber, 1896, 471.
 notes on crosses, 1897, 397.
 propagation, by cuttings, 1896, 474.
 experiment in root grafting, 1896, 487.
 inarching as a preventive of injuries, 1896, 487.
 methods of grafting, 1896, 485.
 selection of stocks, 1896, 476.
 remedy for scale insects, 1897, 188.
 topping and cultivation of nursery trees, 1896, 483.
 use of resin wash as insecticide, 1896, 233.
 water as protection from frost, 1897, 64.
 industry of Florida, extent of injury by freezes in 1894-95, 1895, 161.
 nursery, location and cultivation, transplanting, 1896, 474.
 pests, important, other than scale insects, discussion, 1900, 283-290.
 scale insects, enemies; control; classification, 1900, 252, 254, 256, 262.
 trees, notes on gassing, 1900, 257, 258.
 scale insect and mite enemies, article by C. L. Marlatt, 1900, 247-290.
 sprays, discussion, 1900, 260-262.
 training of trunk as a protection against freezing, 1895, 165.
 use for production of perfumery, 1898, 385.
 of fires as a protection against freezes, 1895, 166.
 trifoliata, introduction by William Saunders, 1900, 628.
- Civil service, advantage to Department, remarks of Secretary, 1896, 10.
 in Bureau of Animal Industry, 1894, 33; 1896, 18; 1898, 23.
 the Department, 1895, 63; 1896, 10.
 suggestions as to relations to agricultural collections, 1896, 47.
- war, effect on plan for meteorological operations, 1899, 77.
 note on effect on Texas fever, 1899, 126.
- Claret, deficiencies of early California product, 1898, 552.
- Clark, W. A., method of improvement of cotton, 1898, 359.
 production of smooth-seeded upland cotton, 1898, 365.
- Clarke, Ernest, remarks as to improvement of sugar beets, 1898, 371.
- Classified service, Department of Agriculture, 1896, 11, 12.
- Clay, grafting, used in pruning, 1895, 268.
 Henry, early importation of cattle, 1899, 633.
- CLAY, JOHN, JR., article on "Work of the breeder in improving live stock," 1899, 627-642.
- Clay mechanical separation, 1894, 134-136, 147, 148, 152; 1900, 399.
 soil, curvature and pressure of water content, 1898, 402.
 soils, relation of soil moisture to movement of water, 1897, 130.
- Claytonia perfoliata* (winter purslane), use as a pot herb, 1895, 213.
- Cleaning and harvesting grass and clover seed, 1899, 565.
- Cleft grafting, method of restoring frozen orchard nursery, 1895, 169.
 practice with citrus fruit trees, 1896, 485.

- Cleveland, experimental steel-track wagon road, 1898, 292.
- Climate, adaptation of methods of irrigation, 1896, 192.
 and crop reports, notes, 1897, 27, 67, 206; 1899, 87.
 service in Alaska, note, 1898, 22.
 of Cuba and Porto Rico, 1899, 12.
 change, variation in plant growth as a result, 1896, 99.
 conditions on Great Plains, Montana to Texas, 1896, 167.
 influence of forest growth, 1896, 324.
 on development of asparagus beetle, 1896, 346.
 need of farmer of information as to relation of crops, 1897, 118.
 of Cuba, 1898, 671.
 Philippine Islands, 1898, 672.
 Porto Rico, 1898, 511, 512.
 United States, suitability to growing goats, 1898, 424.
 peculiar inversion of temperatures in Arizona and California, 1900, 466.
 pruning and cultivation, influence on citrus insects, 1900, 248.
 relation of growth of trees in transplanting, 1898, 156.
 to amount of soluble salts, 1898, 499.
 time of ripening of cowpeas, 1896, 288.
 required for ramie, 1894, 446.
 restriction of range of weed seeds, 1896, 282.
 soil characteristics and irrigation methods of California, article by Charles W. Irish, 1895, 475.
- Climatic and soil conditions, effect on varieties of plants, 1897, 383; 1900, 469.
 conditions, consideration in road building, note, 1900, 353.
 for public lands, 1898, 332, 333, 335.
 of the Hawaiian Islands, 1898, 363.
 relation to tree growth, 1897, 156.
 data, compilation, 1894, 119.
 for sanitarians, 1894, 120.
 range for plant production in United States, remarks, 1900, 134.
 requirements of date palm, discussion, 1900, 456.
- Climatological information, collection and use, 1897, 68.
- Climatology, relations of work of Division of Soils, 1898, 41.
- Clivicola riparia* (bank swallow), food of nestlings, 1900, 418.
- Cloth frames, used in protecting young plants from frosts, 1895, 153.
- Clothes moth, Southern remedies, 1894, 573.
- Cloud observations, international, note, 1899, 91.
- Clouds, effect upon frost, 1897, 62.
 formation and relation to rain, 1900, 109.
 relations to cyclones, 1898, 527.
 systematic study, 1894, 120.
- Clover, alsike, red and white, number seeds per pound, amount to sow, etc., 1894, 570.
 and grass seeds, remarks, 1899, 564.
 leguminous crops, early recognition of value to soil, 1899, 217.
 beetles, importation, notes, 1897, 549.
 crimson. (*See* Crimson clover.)
 difficulty of cleaning weed seeds from seed, 1896, 277.
 Egyptian, note on introduction, 1900, 140.
 mammoth, method of securing fertilization, 1896, 211.
 note on early attention, 1899, 348.
 notes on usefulness on vacant lots, 1898, 199.
 potash, withdrawal from soil in cultivation, 1896, 115.
 red, discussion of value as crop, 1897, 492.
 fertilization by bees, 1896, 210.
 seed developed by early pasturage, 1896, 211.
 effect of different temperatures on germination, 1895, 178.
 example of impurity, 1897, 94.
 huller; mill for cleaning clover seed, 1899, 565.
 notes on study, 1900, 31.
 wholesale prices, 1900, 822.
 "sickness," opinion as to cause, 1897, 493.
 white, use in lawn making, 1897, 361.
 with wheat, indorsement, 1897, 300.
- Clovers and other legumes, value for succulent forage, 1899, 621, 622, 623, 624.
 in Alaska, notes, 1899, 518.

- Clovers, note on possibility of growing in Texas, 1900, 38.
 tame grasses, where they will grow, 1895, 321.
 value as forage plants, 1895, 318.
- Coal, freight rates by years, 1897, 596.
 Harbor, Alaska, note on stock raising, 1898, 522.
 lands, public notes on law; prices, 1898, 353.
 oil, use against blister beetle (*see also* Kerosene), 1898, 251.
 railroads, use of heavy engines, 1899, 650.
 tar, use against root rot, 1896, 252.
 used in pruning, 1895, 268.
- Coast couch grass as sand binder, 1894, 433.
- Cobalt, mixture for use against tobacco worms, 1898, 131.
- Coca, plant, introduction into United States, 1897, 200.
- Coccoloba uvifera* (sea grape), injury by freezes in Florida in 1894-1895, 1895, 172.
 variation of seaside growth from garden, 1896, 98.
- Coccyzus* spp. (cuckoos), relations to fruit growing; food of nestlings, 1900, 297, 428.
- Cochin chickens, mating in breeding, 1896, 453.
 varieties, advantages, descriptions, weights, 1896, 452.
- Cockle, poisoning of man and other animals, note, 1900, 306.
- Cockroach, German, remedies, 1894, 573.
- Cocoa, quantity and value of imports, 1891-1895, 1895, 549.
- Cocoanut husks, note on shipments from Porto Rico, 1898, 509.
 palm, injury by freezes in Florida in 1894-1895, 1895, 171.
 introduction into United States, 1897, 200.
- Cocoanuts and cocoanut oil, statistics of imports, 1897, 339.
- Cocos nucifera* (cocoanut palm), injury by freezes in Florida in 1894-1895, 1895, 171.
- Codling moth, alleged destruction by kohlmeise (titmouse), 1898, 105.
 (apple worm) remedies, 1894, 573.
 early recommendations for use of arsenicals, 1899, 147, 148.
- Coe, E. S., pioneer in conservative lumbering, 1899, 419.
- Coffee, consumption in the United States, 1870 to 1895, 1895, 552; 1870 to 1896, 1896, 595.
 crop, time of ripening in Porto Rico, 1898, 507.
 growing in Hawaii, 1898, 349, 568, 569, 570.
 Porto Rico, 1898, 506, 510, 514.
 imports and exports, for five years ended June 30, 1899, 1898, 707, 714.
 note on distribution, 1897, 197.
 quantity and value of imports, 1891-1895, 1895, 549.
 remarks on imports from island possessions, 1899, 60.
 tea and liquors, consumption, 1870-1897, 1897, 754; 1870-1898, 1898, 723.
- Coffin, note of publication of books on winds, 1899, 75.
- Coin and currency of the United States, 1898, 676.
- Coir powder, cocoanut by-product, use in packing palm offshoots, note, 1900, 463.
- Colaptes auratus* (flicker), destruction of insects; feeding of nestlings, 1900, 294, 427.
- Cold storage for pears; early suggestion and use, note, 1900, 394, 565, 568.
 relation to protection of game, 1899, 286.
 unsuccessful experiment with peaches at Middletown, Del., 1900, 566.
- susceptibility of millets, 1898, 270.
- waves, distribution and use of warnings, 1897, 65.
 in California fruit districts, discussion, 1898, 81.
 origin and nature, 1897, 74, 75.
- weather, development of Texas fever, 1898, 466.
 diminution of infection with Texas fever, 1898, 454.
 effect on cattle after dipping for ticks, 1898, 465.
- Cold-wave warnings, value to agricultural products, 1895, 32.
- Coler, Dr. George W., report on outbreak of rabies at Rochester, N. Y., 1900, 217.
- Colinus virginianus* (quail), feeding habits, 1900, 432.
- College courses in agriculture, 1899, 176, 182.
 librarians, agricultural books, 1899, 494.
 the first agricultural, 1894, 91.
- Colleges, agricultural, admission of graduates to study in Department, 1898, 18.
 and other institutions having courses in agriculture, 1894, 526;
 1895, 557; 1896, 603; 1897, 622; 1898, 597; 1899, 671; 1900, 637.
 bills granting lands, 1894, 95.
 Morrill act for endowment fund, 1894, 92; 1899, 166.
 American agricultural, some types, article by A. C. True, 1898, 63-80.
 and experiment stations, American agricultural, association, organization,
 1899, 171.

- Colleges having courses in agriculture, 1894, 111.
 land-grant, requirements for admission and cost of attendance, 1900, 674-687.
 of agriculture, development during closing decade of nineteenth century, 1899, 173.
 lists, 1899, 183.
 short and special courses, 1899, 186.
- Collier, Peter, appointment as Chemist of Department, 1899, 241.
- Colman, Norman J., call of first meeting of agricultural colleges and experiment stations, 1899, 171, 518.
- Colonial conditions (of agriculture), early, 1899, 308.
 period, dairying, comparison with present time, 1899, 382.
- Colorado and California, cooperative colonies, 1899, 593.
 desert, fitness for growing date palm, 1900, 484, 485.
 (experiment) station, notes on wheats, 1900, 139.
 note on cooperative work in tree planting, 1897, 157.
 potato beetle, remedies, 1894, 574.
 public lands, information, 1898, 326, 330, 340.
 rainfall available for crops, 1894, 157.
 River Valley region, fitness for growing date palm, 1900, 487.
 southwestern, study of forage plants, 1897, 166.
 use of Arkansas River water in irrigation, 1896, 175.
 Veterinary Sanitary Board, report, remarks on rabies, 1900, 218.
- Colored students, agricultural and industrial schools, 1898, 64, 69; 1899, 183.
- Colts, use of skim milk, 1897, 519.
- Columbia College, grant to trustees for teaching agriculture, 1899, 161.
 River, drifting of sands, 1898, 418.
- Columbian Agricultural Society, organization and fairs, 1899, 161.
 Exposition, four-spotted bean weevil, 1898, 246.
 fruits shipped under refrigeration from New South Wales, 1900, 578.
 World's, exhibit of experiment stations, 1899, 521.
- Colza and rape, method of culture, 1895, 200.
 meaning of term in Europe, 1895, 199.
 oil and rapeseed oil, estimate of annual consumption in Europe, 1895, 200.
 (rape seed) oil, production and use, 1895, 199.
- Commerce, notes on benefits from West Indian weather service, 1898, 84.
- Commercial fertilizers, analyses, 1897, 687.
 needs and methods of use, 1897, 301.
 pear culture, article by M. B. Waite, 1900, 369-396.
 seeds, part in scattering of weeds, 1896, 275.
 trees, study, by Division of Forestry, 1900, 53.
- Commission and buying systems in marketing truck produce, 1900, 447.
- Commissioner of Agriculture, report on ensilage in 1882, 1899, 617.
- Commissioners of agriculture, State list, 1898, 609; 1899, 686; 1900, 641.
- Common schools, nature study; agricultural books, 1897, 286; 1898, 12; 1899, 512.
 observations by Secretary on nature teaching, 1898, 16.
 remarks by Secretary on agricultural teaching, 1899, 69.
 on introduction of agriculture, 1899, 162, 189.
- Compsomyia mocellaria* (screw worms), remedies, 1894, 574.
- Comstock, J. H., work for economic entomology, note, 1899, 141.
- Concord grape, discovery and improvement, 1899, 476.
- Condemned animals, disposal after inspection by Bureau of Animal Industry, 1899, 460.
 meat, disposal as fertilizer, 1897, 248.
- Condensed-milk industry, beginning, 1899, 388.
- Condimental feeding stuffs, discussion, 1897, 424.
- Condiments, notes on plants in Porto Rico, 1898, 512, 513.
- Congress, acts for benefit of agriculture, notes, 1899, 58, 71, 78, 79, 141, 264, 274, 276, 351, 410, 427, 506, 518, 520, 752.
 appropriation for extension of weather service in arid regions, 1898, 20.
 West Indian weather service, 1898, 84.
 in 1839 for importing plants and animals, 1900, 9.
 bill authorizing Weather Bureau stations in West Indies, 1898, 19.
 calls of members for additional Farmers' Bulletins, 1898, 58.
 distribution of seed and plants through members, note, 1899, 55.
 first appropriation for study of food and nutrition of man, 1898, 440.
 Library, agriculture, 1899, 506.

- Congress, Members, publications for distribution, notes, 1899, 676.
 note on quotas of Farmers' Bulletins for members, 1899, 42.
 policy in regard to cooperative investigations of Department and experiment stations, 1900, 58.
 prohibition of importation of foreign cattle, 1898, 613.
 relation to early road building, 1899, 372.
 Washington's message, 1894, 83.
- Congressional action regarding road building, 1899, 374.
 distribution of seed, establishment of standard, 1900, 29.
 publications of the Department, 1897, 219; 1898, 602; 1899, 677.
- Conifers. (*See also* Deciduous conifers.)
 care in growing on waste lands of farms, 1896, 329.
 setting in nursery rows, 1896, 330.
 description, uses, etc., 1897, 644.
 difficulties in growing, 1896, 331.
 method of planting on abandoned hillside fields, 1896, 335.
 planting in arid regions, 1895, 354; 1897, 157.
 studies by Division of Forestry, 1897, 150.
- Connecticut, dietary studies in farmers' families, 1898, 444.
 experiment station, cooking of potatoes, 1900, 340, 343.
 inspection of food and feed, 1897, 427.
 leaf tobacco, notes, 1899, 27; 1900, 163, 166.
 library with farmers' reading course, 1899, 508.
 note on law against adulteration, 1897, 427.
 progress in road building, 1897, 177.
 tobacco soils, 1894, 143, 146.
 Valley, remarks of Secretary on production of Sumatra tobacco, 1900, 48.
- Conotracheus nenuphar* (plum curculio), remedies, 1894, 574.
- Conservatories, suggestions for construction, 1897, 183.
- Consular reports, relation to study of foreign markets, 1897, 274.
- Contagion, dissemination by stock cars, 1897, 25.
 early carelessness as to spread, 1897, 236.
 from foreign cattle, law for protection, 1898, 613; 1899, 691; 1900, 645.
 of anthrax, persistence in soil, 1899, 116.
 pleuro-pneumonia, eradication, 1897, 239.
 sheep scab, spread, remarks by Secretary, 1899, 51.
 Texas fever, peculiar features, 1899, 127.
 tuberculosis, remarks of Secretary, 1900, 19.
- Contagious disease, revision of opinions regarding cause, remarks, 1900, 238.
 diseases, exclusion of stock from Great Britain, 1897, 238.
 necessity of inspection for control, 1897, 23.
 note on wisdom of quarantine, 1897, 250.
 pleuro-pneumonia of cattle, discussion, 1899, 109-113.
 work of Bureau of Animal Industry, 1899, 442.
- Contagiousness of glanders, discussion, 1899, 96, 97, 98.
 tuberculosis, notes, 1898, 117, 118.
- Contopus virens* (pewee), food of nestlings, 1900, 427.
- Convict labor in road building, 1897, 179.
- Cookery and domestic science, schools, attention to nutrition, note, 1899, 413.
- Cooking of potato, methods of preparation, 1900, 339, 341.
 suggestions for use of skim milk, 1897, 514.
- Cooper, Hon. Elwood, production of olive oil, 1897, 332.
 Joseph, early work in plant breeding, 1899, 470.
 Peter, operation of locomotives on curved road, 1899, 647.
- Cooperage, use of wood for barrels, casks, etc., 1896, 409.
- Cooperation among Mormons and in Colorado and California, 1899, 593.
 in cheese making in France, remarks, 1900, 621.
 of experiment stations with Department of Agriculture, 1900, 57.
 with experiment stations in plant introduction, 1900, 131-144.
- Cooperative creameries in France, Holland, Luxembourg, Denmark, Russia, 1900, 611, 612, 613, 614, 615.
 road construction, progress, 1897, 177.
 storage houses for apples, notes, 1900, 573.
 work of Division of Forestry; building experimental roads, notes, 1900, 52, 54.
- Cooper's hawk, notes, 1894, 231.
- Copenhagen, position as distributing center for Baltic region, 1899, 47.

- Copper sulphate, treatment for stinking smut for wheat, 1894, 417.
- Coppice management, 1894, 498.
- Coprinus* (edible mushroom), description, etc., 1897, 462.
- Coprolites, origin and composition, 1894, 177.
- Corbett, L. C., statement as to breeding roses, 1898, 376.
- Cord grass, fresh water, as soil binder, 1894, 436.
value as a forage plant, 1895, 318.
- Corduroy, remarks on use in mountain road, 1900, 196.
- Cordwood, market at Oakland, N. J., 1898, 306.
reckoning of quantity in standing timber, 1896, 416.
- Corean foxtail millets, notes, 1898, 275.
- Coriander-seed oil, price per ounce, 1895, 204.
- Corimelœna extensa*, injuries to tobacco, 1898, 137.
- Cormorant, red-faced, food of nestlings, 1900, 434.
- Corn, acreage, production and value, 1895, 526; 1896, 559; 1897, 710; 1898, 678; 1899, 759; 1900, 756.
American, possibility of production in Hawaii, 1898, 572.
and cotton, liability to injury by overheating, note, 1900, 325.
milk, value as hog feed, 1897, 517.
area in crop, changes from 1879 to 1889, 1895, 528.
in Kansas, 1894, 158.
breeding, work of Division of Vegetable Physiology and Pathology, 1900, 34.
broom, exports, 1891-1895, 1895, 544.
crop of certain countries, 1899, 775; of world, 1900, 754.
cultivation and harvesting, progress, 1899, 331.
cutting and gathering in 1899, 1899, 730, 731.
disposition of crop, by States, 1895, 527; 1896, 561; 1897, 712; 1898, 678; 1899, 759. (*For 1900, see Corn, statistics.*)
ear worm (boll worm), remedies, 1894, 573.
early use of fish as manure, 1899, 209.
effect of different temperatures on germination, 1895, 178.
Egyptian, crop suitable for alkali soils, 1895, 121.
exports. (*See Exports.*)
farm prices, 1894, 545; 1895, 532, 536; 1896, 578; 1897, 723; 1898, 692; 1899, 793; 1900, 758.
fertilization by agency of the wind, 1896, 211.
fly, ribbon footed, injuries to small grain, 1897, 549.
freight rates, Western centers to Atlantic ports, 1893 to 1897, 1896, 598.
hybrid, escape from blight, 1897, 414.
imports. (*See Imports.*)
improvement by crossing, 1897, 413; 1899, 19, 486.
Indian, improvement by selection, 1898, 29, 356; 1899, 471.
note on sales to Denmark, 1899, 46.
remarks on races found among American Indians, 1899, 466.
- meal, average composition, 1897, 678.
poisoned, use against bud worms, 1898, 134.
- method of testing seed, 1897, 448.
- mixing of varieties at long distance, 1896, 214.
- note on field for development of foreign market, 1897, 277, 278.
- notes on weather for planting, cultivation, and gathering, 1900, 697-713.
- planters, notes on patents, etc., 1899, 316.
- planting in 1899, 1899, 721, 724.
- potash, withdrawal from soil in cultivation, 1896, 114.
- prices, wholesale, in leading cities of the United States, 1891-1895, 1895, 537.
- production, acreage and value, 1895, 526; 1896, 559; 1897, 710; 1898, 678; 1899, 759; 1900, 756.
of oil and sugar, 1897, 209.
- reduction in size by use of small seed, 1896, 92.
- reversion of American to European type, 1896, 100.
- root worm, remedies, 1894, 573.
- sawfly, enemy of wheat; importations, 1897, 549.
- smuts affecting, 1894, 414.
- statistics. (*See Statistics.*)
of world's crop, of United States acreage, yield, value, and prices, 1900, 753-762.
- stover (fodder), care and handling, 1896, 356.
composition, 1896, 353.

- Corn, stover (fodder), conditions affecting value, 1896, 356.
 digestibility as compared with other feed, 1896, 354.
 feeding value, article by J. B. Lindsey, 1896, 353-360.
 fertilizing constituents, 1896, 360.
 losses by neglect, 1896, 355.
 use, notes, 1896, 357, 358, 360.
 tarring seed against birds, 1897, 352.
 use in producing oil, 1895, 204.
 value as crop, succulent forage, 1899, 620.
 varieties adapted to Southern States, 1897, 116.
 wheat, and oats, investigation of zones, 1897, 32.
 wholesale prices in leading markets, 1894, 534; 1895, 537; 1896, 579; 1897, 726; 1898, 695; 1899, 799, 800; 1900, 760, 761.
 yield and value per acre, 1897, 592, 718, 720; 1898, 687, 689; 1899, 783, 788.
 (For 1900, see Corn, statistics.)
- Corn-ear worm, note, 1898, 133.
 or bollworm, description and remedies, 1898, 255.
- Cornell, Ezra, statement of purpose in founding university, 1898, 74.
 University agricultural libraries, 1899, 501.
 extension of agricultural education, 1899, 178.
 notes on nature teaching, 1898, 17; 1899, 69.
 work in agricultural chemistry, 1899, 228.
 College of Agriculture, 1897, 283-287; 1898, 74, 75.
- Cornstalk borer, remedies, 1893, 573.
 disease, remarks, 1900, 307.
- Corporate canal building, remarks, 1899, 594.
- Corrosive sublimate, formula for fungicide, 1897, 676.
- Corse, Henry, experiments with plums, 1899, 479.
- Corvus americanus* (crow), food of nestling, 1900, 424.
- Cottage cheese, making and prices, 1897, 520.
- Cotton, acreage, production, and value, 1895, 532; 1896, 573; 1897, 715; 1898, 680; 1899, 764; 1900, 811.
 American, consumption by foreign countries, 1898, 685; 1899, 771; 1900, 810.
 and corn, liability to injury from overheating, note, 1900, 325.
 wheat, prices, 1897, 594.
 area in crop, changes from 1879 to 1889, 1895, 528.
 average value per acre, 1897, 722; 1898, 691; 1899, 792; 1900, 811.
 yield and value, 1897, 720, 722; 1898, 689, 691; 1899, 787, 792; 1900, 811, 812.
 bollworm, note, 1898, 133.
 breeding, note on work inaugurated, 1900, 35.
 comparative acreage and production, 1898, 683; 1899, 773.
 controlling position of product of United States, 1899, 325.
 cost of marketing, 1897, 595.
 crop, effect of inventions, 1897, 597.
 movement; world's totals, 1897, 715.
 crops, exports, imports, and consumption, 1895, 532; 1896, 573; 1897, 715; 1898, 683; 1899, 773; 1900, 808-809.
 demand for high grades, 1897, 116.
 Egyptian, discussion by Secretary, 1899, 64.
 importation into United States, 1897, 117.
 exchanges, character and purposes, 1899, 322.
 United States, list, 1899, 758; 1900, 753.
 exports. (See Exports.)
 imports, and consumption, for United States crops, 1898, 683.
 to United Kingdom, 1894, 18.
 farm prices, 1894, 545; 1895, 532, 536; 1896, 578; 1897, 725; 1898, 694; 1899, 797; 1900, 812.
 fertilizing constituents, 1894, 544; 1895, 569.
 gin, note on invention and usefulness, 1899, 319.
 grain, and vegetables, notes on diseases in 1898, 1898, 652.
 higher price from plants improved by selection, 1898, 362.
 imports. (See Imports.)
 improvement by selection, 1899, 490.
 Jannovitch Egyptian, notes on introduction and value, 1900, 144.
 monthly returns of transportation companies, 1899, 54.
 note on cross fertilization in improvement, 1898, 367.

- Cotton, notes on relation of weather to planting, cultivation, and picking, 1900, 697-713.
 picking in 1899, 1899, 730, 731.
 planting in 1899, 1899, 721.
 potash as protection against leaf blight, 1896, 134.
 profit as compared with cattle, 1897, 173.
 returns showing advantage in use of fertilizers, 1897, 598.
 sea-island, improvement, 1898, 358, 360, 361; 1899, 471.
 study of disease, 1899, 18.
 seed, growth of use, 1899, 329.
 source of potash and other fertilizing materials, 1896, 124.
 uses of its products, 1895, 187.
 smooth-seeded upland, note on production, 1898, 365.
 spindles in operation in 1898, 1898, 684.
 statistics. (*See Statistics.*)
 the world's consumption, 1899, 772.
 value of bottom bolls for seed, 1896, 306.
 vegetables and cereals, diseases, 1899, 751.
 wholesale prices in leading United States markets, 1894, 539; 1895, 542; 1896, 584; 1897, 731; 1898, 701; 1899, 815, 816; 1900, 813.
 world's consumption, 1897, 716; 1898, 684; 1899, 772; 1900, 810.
 worm, remedies, 1894, 573.
- Cotton-boll weevil (*Anthonomus grandis*), investigations of the Division of Entomology, 1895, 51.
 Mexican, study, 1897, 38, 86.
 work of entomologist, 1898, 32.
- Cottons, cereals, flax, and cowpeas, notes on disease in 1900, 1900, 731.
- Cotton-seed cake exported from the United States in 1894, 1895, 186.
 meal, discovery of large adulteration, 1897, 424.
 oil, exports, 1895, 187, 544; 1899, 325. (*See also Exports.*)
 how extracted, 1895, 186.
 price per gallon, 1895, 204.
 use against insects, 1897, 639; 1898, 455, 661.
- Cottonwood, growth on the Western plains, 1895, 344.
 range, uses, etc., 1897, 668.
 tree suitable for alkali soils, 1895, 121.
- Couch grass, coast, as sand binder, 1894, 433.
 method of distribution, 1896, 264,
 (witch grass), as soil binder, 1894, 435.
- Coudon and Boulard, opinion as to culinary value of potatoes, 1900, 344.
- Coulure of grapes, investigation and plan for prevention, 1898, 265.
- Country road traffic, kind of road and of road material, 1900, 354.
 roads, good, construction, article by Maurice O. Eldridge, 1898, 317-324.
- COVILLE, FREDERICK V., article on "Some additions to our vegetable dietary," 1895, 205-214.
 review of work of Division of Botany, 1897, 90-99.
- Cow, ages and periods important in breeding, 1900, 740.
 daily ration, 1894, 565.
 dairy. (*See Dairy cow.*)
 rations, 1894, 565; 1895, 565.
 scale of points for judging, 1900, 737.
 drying off and calving time, 1894, 306.
 feed, note on sale to Denmark, 1899, 46.
 pasture season and soiling, 1894, 311.
 stabling season, 1894, 313.
- Cowbird, range and damage to grain, 1897, 352.
- Cowpea weevil, discussion, 1898, 242-245.
- Cowpeas, adaptation to climate, 1896, 294.
 article by Jared G. Smith, 1896, 287.
 attacks of boll or corn-ear worm, 1898, 255.
 characteristics and local names, 1896, 288.
 cotton, cereals, flax, notes on diseases, 1900, 731.
 feeding value of vines, 1896, 294.
 functions of crop, 1896, 296.
 manner of feeding, 1896, 293.
 methods of cultivation and harvest, 1896, 291.
 origin, varieties, etc., 1896, 287.
 relation of time of ripening and habit of growth, 1896, 288.

- Cowpeas, treatment with fertilizers, 1896, 296.
 varieties, cultivation, values, etc., 1897, 497.
 yield and value of crop, 1896, 292.
 of seed per acre, 1896, 294.
- Cowpox, discussion of origin, 1899, 104.
 horsepox, and smallpox, relation, 1899, 108.
 variola, discussion, 1899, 102.
 production from horse disease at Alfort, 1899, 107.
- Cows, amount and value of manure, 1896, 616; 1897, 688. (*See also* Dairy cows.)
 and calves, skim milk and whey as feed, 1897, 519, 525.
 danger from poison, 1897, 97.
 exports to United Kingdom, 1893 to 1896, 30.
 feeding on an English farm, note (*see also* Milch cows), 1898, 585.
 milch, experiments in feeding with beet pulp, 1898, 216.
 number and value (*see also* Statistics), 1895, 583.
 use of Canadian field peas for food, 1895, 224.
 notes on yield of milk and butter, 1899, 392.
 susceptibility to plant poisoning, note, 1900, 309.
- Cowslip (marsh marigold), use as a pot herb, 1895, 210.
- Crab apple, improvement by crossing, 1897, 420.
 apples, need of amalgamation with domestic apples, 1896, 304.
- Crackers, quality of wheat for flour, 1896, 494.
- Cranes, food of nestlings, 1900, 433.
- Cream, cheese, and butter, notes on experimental shipments (*see also* Milk), 1900, 22.
 mechanical separation, 1899, 393.
 methods of separating, 1897, 510.
- Creameries in France and Russia, cooperative, 1900, 611, 613.
- Creamery. (*See* Dairy.)
 butter, damage to trade in England by "process" butter, 1899, 52, 53.
- Creeper and nuthatches, habits and relations to fruit growing, remarks, 1900, 296.
- Creeping bent (brown-top), notes, 1895, 328, 330.
 grass, notes on seed; description, 1898, 494.
 usefulness in lawn making, 1897, 359.
 fescue, notes, 1895, 328, 330.
 number seeds per pound, amount to sow, etc., 1894, 569.
 panic grass, description, use in binding sands, 1898, 414.
 notes, 1894, 433.
- Creolin, use as substitute for carbolic acid, 1896, 256.
- Creosote, use against ambrosia beetles, 1896, 430.
- Cress, winter, cultivation and use as a pot herb, 1895, 208.
- Crested dog's tail, number seeds per pound, amount to sow, etc., 1894, 570.
- Cribbing in road building; durability in slide-rock road, note, 1900, 189, 196.
- Crickets, tree, damage to tobacco, 1898, 143.
- Crimont, Father, note on agriculture on the Yukon, 1898, 520.
- Crimson clover, soils, range of climate, etc., 1897, 67.
- Crioceris asparagi*, importation into United States, 1896, 341.
 remedies, 1894, 573.
 duodecimpunctata, importation, 1896, 342.
- Crittenden, S. S., notes on growing vegetables and small fruits in Alaska, 1898, 519.
- Crop and climate bulletins, discussion, 1899, 87.
 Weather Bureau service in Cuba and Porto Rico, 1899, 12.
 weather conditions, 1894, 529; 1897, 689-697; 1898, 627-651; 1899, 720-743; 1900, 696-724.
 belts, natural, of United States, notes on determination, 1899, 17.
 correspondents, publication for use, 1899, 55.
 failure of 1891, advance effects, 1900, 178.
 forest, growing and using, 1897, 150.
 fruit, processes for saving, 1898, 310.
 pests, foreign, study, 1897, 89.
 production, extracts from censuses, 1899, 324.
 relation to cultivation, 1897, 129.
 soils, 1894, 129; 1897, 134.
- Reporter, remarks on usefulness, 1899, 55.
- reporting, improvement, 1897, 56.
 system for new territory, 1898, 61.
 in Division of Statistics, 1898, 60; 1899, 54.
- reports, change in manner of publication, 1897, 212.
 distribution, 1897, 57, 269.

- Crop reports, foreign, relation to markets, 1897, 275.
 note as to issue, 1897, 206.
 supply to farmers by rural free delivery, note, 1900, 525.
 rotation for semiarid region, note, 1900, 539.
 season of 1899, review by weeks, 1899, 721.
 rainfall, article by A. J. Henry, 1897, 607-618.
 statistics, note on collection and publication, 1898, 11.
 wheat, yearly, possibility in semiarid district without irrigation, discussion, 1900, 530-533.
 zones and life zones, note on study in Biological Survey, 1898, 32.
- Crops, adaptation to new climate, 1897, 111.
 agricultural, remarks on early knowledge of composition, 1899, 213-216.
 and farm animals, principal, statistics, 1897, 710-735.
 values, effect of railroad extension, 1899, 336.
 best for succulent storage, discussion, 1899, 620.
 cereal, average value and yield, 1897, 592.
 damage by blackbirds and their allies, 1898, 230.
 different, need of investigation of irrigation, 1898, 54.
 experiments with oats, beans, and buckwheat, 1897, 35.
 exported, table showing percentage, 1897, 591.
 farm prices, notes, 1897, 593.
 field, practical tests by experiment stations, 1899, 538.
 first, in agriculture of United States, dates, 1899, 309.
 for nonirrigable localities, 1897, 92.
 pear orchard in early growth, discussion, 1900, 375.
 forage, importance in feeding, 1897, 489.
 in Porto Rico, time of ripening, 1898, 507.
 increase by use of large and heavy seed, 1896, 317.
 introduced, need of confirmation of excellence, 1900, 131.
 leguminous forage, article by Jared G. Smith, 1897, 487-508.
 minor, 1897, 504.
 methods among Indians of cultivating and gathering, 1899, 307.
 and industries, work of experiment stations, 1899, 542-545.
 of applying water, 1900, 507.
 minor, for soiling, pasturage, or silage, 1899, 625.
 need of diversification, 1897, 115.
 information as to relation to climate, 1897, 118.
 new and improved, remarks on introduction, 1900, 133-135.
 difficulties of introduction, 1897, 225.
 inquiry, 1897, 50.
 of breadstuffs and their relations to prices, discussion, 1900, 167-182.
 on ground occupied by young date trees, notes, 1900, 473.
 ordinary field, amount of water necessary for maturing, 1900, 511.
 principal, statistics, 1895, 526-532; 1896, 559-573; 1897, 710-732; 1898, 678-701; 1899, 759-817; 1900, 753-823.
 profitable for different climates, 1897, 117.
 quantity of potash withdrawn from soil, 1896, 113.
 relation of alkali in soil, 1898, 535.
 to percentage of soluble salts in soil, 1898, 499.
 requirements in use of potash and phosphoric acid, 1896, 128.
 saving in cost of producing, 1899, 333.
 special, value of forecasts, 1897, 62.
 statistics, 1895, 526-532; 1896, 559-573; 1897, 581-583, 710-732; 1898, 678-801; 1899, 759-817; 1900, 753-823.
 succulent forage, place on the farm, 1899, 614.
 suggestions of introduction of new kinds, 1897, 10.
 suited to preparation of soil for pear orchard, 1900, 372.
 table as to hand and machine labor, 1897, 600-603.
 showing annual use of potash in Germany, 1896, 115.
 truck and garden, attention to diseases, 1897, 111.
 use of unmerchantable residue, 1897, 295.
 wholesale prices in leading cities of United States, 1894, 534-539; 1895, 537-542; 1896, 579-584; 1897, 726-732; 1898, 695-700; 1899, 799-817. (*For 1900, see Corn, etc.*)
- Cross fertilization, advantages to seed, 1896, 212.
 in improvement of plants by selection, 1898, 367.
 notes on use in improvement of plants, 1899, 472.
 three factors, 1897, 403.

- Cross pollination, discussion of pomaceous fruits, practical conclusion, 1898, 180.
 varieties of pears, 1898, 172.
 relation to other factors in fruitfulness of orchards, 1898, 178.
 value as factor in production of pomaceous fruits, 1898, 167.
- Cross-bred plants, increased vigor, 1897, 403.
- Cross-breeding, improvement of tobacco, 1897, 419.
 of plants. (*See* Hybridization.)
- Crossing of pears for improvement, note, 1900, 370.
 plants, notes on work of Fairchild, Knight, and others, 1899, 469.
- Cross-ties, function in steel-track wagon roads, 1898, 293.
 notes on scarcity, need and prices, 1900, 147, 148.
 on railroads, introduction, 1899, 649.
- Crotalism, plant poisoning disease, note, 1900, 308.
- Croton oil, price per pound, 1895, 204.
- Crow and crow blackbird, study by Biological Survey, 1899, 266.
 blackbirds and their food, 1894, 233, 235.
 contents of stomachs, 1894, 238.
 geographic range, 1894, 233.
 note on nesting with osprey, 1900, 430.
 notes on range and habits, 1897, 346.
- Crown grafting, method of restoring frozen orange groves, 1895, 167.
 practice with citrus fruit trees, 1896, 486.
- Crows, food of nestlings, 1900, 424.
- Crozier, Professor, opinions on millets, 1898, 272, 273.
- Cruickshank strain of cattle, notes, 1899, 637, 639.
- Crushing outfit for road making, note on cost, 1900, 197.
- Cryptolæmus montrouzieri*, use against mealy bug, 1896, 226.
- Cryptomeria japonica* (cedar) note on introduction by William Saunders, 1900, 627.
 value of root pruning, 1898, 157.
- Cuba and Porto Rico, climate and crop service, 1899, 12.
 as market for United States, note, 1900, 69.
 damage to tobacco from worms, 1898, 129.
 estimated annual export of pineapples to the United States, 1895, 269.
 notes on tobacco, 1898, 42, 43, 44.
 exhibit at Paris Exposition, 1900, 158.
 population and resources, 1898, 670, 672.
- Cuban cigar filler tobacco, note on possible growing in Texas and Porto Rico, 1900, 49.
 tobacco, Florida-grown, at Paris Exposition, remarks, 1900, 162.
 note, 1899, 437, 438.
 improvement, 1897, 419.
- Cuckoos, relations to fruit growing; food of nestlings, 1900, 297, 428.
- Cucumber, advantage of old seed, 1898, 363.
 beetle, striped, remedies, 1894, 573.
 twelve-spotted, attack on beans, etc., 1898, 255.
 seed, effect of different temperatures on germination, 1895, 178.
 tree, range, uses, etc., 1897, 663.
- Cucumbers, provisions for cross fertilization, 1896, 211.
- Cultivating, planting, and fertilizing date palms, discussion, 1900, 472.
- Cultivation and harvesting of corn, wheat, etc., 1899, 332.
 effect on sterility and fertility of plants, 1896, 100.
 need after irrigation, note, 1900, 509, 510.
 of pear orchard, discussion, 1900, 375.
 the soil, meaning of the term; when practiced, 1895, 128.
 pruning, and climate, influence on citrus insects, 1900, 248.
- Culture, commercial, of pear, article by M. B. Waite, 1900, 369-396.
- Cumberland road, description, 1899, 373.
- Curacao, quality of orange peel, 1898, 386.
- Curculio, plum, remedies, 1894, 574.
- Curing, gathering, and packing of dates, 1900, 481.
- Curly mesquite, description and value, 1900, 590.
 usefulness for pasture, 1897, 162.
- Currant and gooseberry culture, general remarks, 1895, 293.
 worm, attack; importation, 1897, 550.
 imported, remedies, 1894, 573.
- Currants and gooseberries, objects and methods of pruning, 1898, 161.
 statistics of imports, 1830-1897, 1897, 314.
 varieties commonly grown for market, 1895, 294.

- Currency and coin of the United States, 1898, 676.
 pork, 1894, 66.
- Curriculum, older, for teaching agriculture; division of subjects, 1899, 174.
- Custis, George Washington Parke, sheep shearings at Arlington, Va., 1899, 160.
- Cut flowers and plants, present state of industry, 1899, 585-590.
 methods of trade, 1899, 588.
 statistics, 1899, 587.
- Cuthbert raspberry, note on origin, 1899, 480.
- Cutler, Thomas R., statement as to feeding beet pulp, 1898, 217.
- Cutter, B. F., improvement cuttings of timber, 1899, 416.
- CUTTER, W. P., article on "A pioneer in agricultural science," 1895, 493-502.
 review of work of the Library, 1897, 220-224.
- Cuttings for propagating plants, importance of proper selections, 1895, 254.
 improvement of plants by selection, 1898, 372.
 propagation of citrus fruits, 1896, 474.
 use in propagation of olive trees, 1896, 374.
- Cutworms and other caterpillars, descriptions, etc., 1898, 257.
 description; injuries to tobacco; remedies, 1898, 140-142.
 injurious to grapevines, 1895, 400.
 remedies, 1894, 573.
- Cyanide, quantity to use in gassing, and danger, 1900, 257-259.
 use in fumigating against insects, 1896, 227.
- Cyclone nozzle, invention and use, note, 1899, 196.
 nozzles and other insecticide machinery, notes, 1899, 153.
- Cyclones, features, 1898, 529.
 hurricanes, and tornadoes, article by F. H. Bigelow, 1898, 525-534.
 observations and discussion by Redfield, Espy, and others, 1899, 74, 75, 76.
 remarks on forces in production, 1899, 92.
 West Indian, notes on warnings, 1899, 9, 11.
- Cyclorrhynchus psittaculus* (auklet), food of nestlings, 1900, 433.
- Cynodon dactylon* (Bermuda grass), as soil binder, 1894, 431.
- Cynosurus cristatus* (crested dog's tail), number seeds per pound, amount to sow, etc., 1894, 570.
- Cyperus rotundus* (nut grass) method and extent of distribution, 1896, 274, 281.
- Cypress, bald, change in habit of growth because of water supply, 1896, 94.
 range, uses, etc., 1897, 653.
 cedar, and oaks, notes on studies, 1900, 53.
 note on resistance to injury by fungi, 1900, 201.
 pecky, probable cause of injury, 1900, 208.

D.

- DABNEY, JOHN C., and GILBERT H. HICKS, article on "The superior value of large, heavy seed," 1896, 305-322.
- Dactylis glomerata* (orchard grass) notes on seed, 1898, 486.
 number seeds per pound, amount to sow, etc., 1894, 569.
- Dactylopius citri* (common mealy bug) description and remedies, 1900, 282.
 damage to tobacco, 1898, 143.
- Dacus oleæ* (fly), injury to olive trees, 1896, 389.
- Dairy and creamery apparatus, work of experiment stations, 1899, 537.
 farm, succulent forage, article by Thomas A. Williams, 1899, 613-626.
 appliances for cleaning, 1896, 436.
 application of laws of mechanics, 1899, 389.
 awards for United States at Paris Exposition, list, 1900, 735.
 care of utensils, article by R. A. Pearson, 1896, 431.
 cattle at Wrangell and Juneau, Alaska, notes, 1898, 521.
 for the dairy, 1894, 296.
 introduction and herd improvement; breeds, 1899, 391.
 pulp feeding in California, 1898, 217.
 pure-bred and grades, relative importance, 1894, 298.
 select for special adaptation, 1894, 296.
 cleaning glass and woodenware appurtenances, 1896, 435.
 tinware, 1896, 434.
 course in University of Wisconsin, purpose, 1897, 282.
 cow, completed ration and method of calculating ration, 1894, 564.
 method of calculating rations, 1895, 565; 1896, 610.
 ration, per capita, daily, 1896, 611.
 scale of points for judging, regardless of breeds, 1900, 737.

- Dairy cows, results in feeding corn stover (fodder), 1896, 358.
 development in the United States, article by Henry E. Alvord, 1899, 381-402.
 Division, Bureau of Animal Industry, organization, 1895, 14.
 summary of work; remarks of Secretary, 1900, 11, 22.
 exhibit at Paris Exposition, 1900, jury and awards; by-products, 1900, 601, 604, 606, 623.
 herd, accommodations required, 1894, 302.
 attendance and milking, 1894, 310.
 culling by individuality and record, 1894, 300.
 feeding, 1894, 314.
 formation and management, 1894, 295, 297.
 health considered, 1894, 304.
 list of publications, 1894, 316.
 treatment of bull, 1894, 299.
 industry (growth of), organization, 1899, 399.
 in United States, illustrative exhibit at Paris Exposition, 1900, 624.
 interests of Canada, statistics, 1895, 464.
 losses by neglect of cleaning utensils, 1896, 432.
 materials for cleaning, 1896, 439.
 necessity of clean clothing for work, 1896, 443, 444.
 dry soil in vicinity, 1896, 443.
 light to good results, 1896, 443.
 officials, national and State, 1898, 610; 1899, 688; 1900, 644.
 practices, sample of changes, 1899, 398.
 product cars, early shipment of strawberries, 1900, 445.
 products, American, lack of supervision, 1899, 47.
 and cattle, wholesale prices, 1900, 825-828.
 at Paris Exposition, 1900, article by Henry E. Alvord, 1900, 599-624.
 transportation and care, 1900, 604, 605.
 average composition, 1897, 678.
 chemical researches, 1899, 234.
 diversification, 1899, 330.
 experimental exports, 1899, 464.
 remarks by Secretary, 1899, 52.
 exports. (*See* Exports.)
 fertilizing constituents, 1895, 569.
 imports. (*See* Imports.)
 inspection, 1900, 23.
 legal standards, 1898, 666.
 note on sales of Danish and American, in British markets, 1899, 46.
 observations of Secretary on exporting and inspection, 1898, 15, 16.
 of goats, note, 1898, 431.
 quantity, and value and number of cows, 1899, 402.
 remarks by Secretary, 1895, 28.
 State standards, 1899, 752; 1900, 739.
 value of exports to different countries, 1895, 547.
 school, education of butter and cheese makers, 1899, 186.
 national, of France, methods, course, etc., 1900, 121.
 schools in Russia, notes, 1899, 399; 1900, 613.
 selection of utensils, 1896, 432.
 stock in France, note on numbers, 1900, 610.
 statistics, 1896, 575; 1900, 825.
 suggestions as to building, 1896, 433, 441.
 sterilization, 1896, 440.
 utilization of by-products, article by Henry E. Alvord, 1897, 509-528.
 work of Bureau of Animal Industry, 1897, 256.
- Dairying at close of century, discussion, 1899, 393.
 the present time, 1899, 397.
 features of factory system, 1899, 386.
 in Hawaii, 1898, 577.
 in third quarter of century, 1899, 384.
 industry, suggestion for substitution of crops, 1897, 118.
 progress in the United States, 1850-1890, 1895, 534; 1896, 575.
- Dairymen in United States, number, 1897, 261.
 Dairymen's associations, organization, 1899, 391.
 Dakota, date of killing frost, 1897, 618.

- Dakota, North, rainfall in wheat region, 1897, 433.
vetch, value, cultivation, analysis, 1897, 505.
- Damask rose, use for attar, 1898, 382.
- "Damping off," method for prevention in farm nursery, 1896, 330.
- Dams, points to be considered in building for water storage, 1896, 170.
- Dandelion, destruction by sparrows and finches, 1898, 224, 225.
extensive use as a pot herb, 1895, 208.
variations by growth in Alpine climate, 1896, 97.
- Danger signals, desirability of standard, 1897, 31.
- Daniels, George H., remarks on railway passenger service and rates, 1899, 663.
- Danish farmer, economic management, note, 1899, 47.
imports from United States, remarks on study by Secretary, 1899, 46.
packing business, growth, 1896, 32.
- Darwin, experiment in pollination of cabbage, 1897, 403.
importance of work in cross pollination, 1898, 167.
remarks on flowers and plants, 1898, 372, 373.
cross-breeding, 1897, 393, 406, 408, 409, 411.
- Date culture in Mexico, 1900, 482.
offshoots, purchase in the Sahara, discussion, 1900, 460-462.
palm and its culture, article by Walter T. Swingle, 1900, 453-490.
as shelter for fruit trees, 1900, 474.
conclusions as to culture in United States, 1900, 490.
in United States, history, 1900, 458-464.
irrigation; proportion of male trees; bearing age; pollination, 1900, 472, 473, 475, 476.
limits of endurance of cold and requirement of heat, 1900, 465.
note on introduction into United States, 1897, 200.
requirements for successful growing and fruiting, 1900, 464.
resistance to unfavorable climatic and soil conditions, 1900, 469, 470.
- Dates and figs, notes on introduction, 1900, 32.
gathering, curing, and packing, 1900, 481.
manner of growth, 1900, 478.
note on trial as new crop in Arizona, 1900, 138.
statistics of imports, 1830-1897, 1897, 318.
three types and keeping qualities, remarks, 1900, 479.
- Daucus carota* (wild carrot), method and extent of distribution, 1896, 272, 280, 288.
- Davaine, note on application of "germ theory" to anthrax, 1899, 117.
- Davis, J. B., Dr., first importation of Angora goats into United States, 1898, 433.
- Davy, Humphry, classification of vegetable substances, 1899, 214.
note on lectures on relation of chemistry to agriculture, 1899, 202.
- Dawson, Alaska, note on market gardens, 1900, 60.
- Dayton wash, use against insects in California, 1896, 234.
- De Candolle, observation as to origin of fox-tail millets, 1898, 269.
Saussure, note on work in agricultural chemistry, 1899, 219.
study of nitrogen as plant food, 1899, 247.
- Deadly agaric, description; danger, 1897, 458.
- Deane, Samuel, book on farming, published in 1790, 1899, 160.
- Death cup (poison mushroom), number of cases of poisoning, 1896, 144.
quantity causing death, 1896, 145.
- Valley expedition, results, 1894, 206.
region, fitness for growing date palm, 1900, 487.
- Deciduous conifers, description, etc., 1897, 652.
plants, injury by black scale in California, 1896, 220.
- Decortivating machinery for ramie, trials, 1897, 231.
- Decortication of ramie, methods, 1894, 445.
- Deer, use of fat in making perfumery, 1898, 380.
- Deglet noor date, remarks; Arizona experiments, 1900, 461, 481, 489.
- Delafond, study of enzootic disease (anthrax) at La Beauce, France, 1899, 115.
- Delaware Agricultural Experiment Station report on rabies, 1900, 216.
grape, origin, 1899, 476.
- Delphinium* spp. (larkspurs), species suspected as poisonous, 1900, 315.
- Dendroline, use against ambrosia beetles, 1896, 430.
- Denmark, advantage of dairy products in British market, 1898, 16.
butter exhibit at Paris Exposition, 1900, character and awards, 1900, 314.
exports of bacon to United Kingdom, 1893-1895, 1895, 17.
butter and eggs to United Kingdom, 1893-1895, 1895, 30.
extent of dairy industry and Government inspection of exports, 1900, 615.

- Denmark, pork imported from United States in 1895, 1895, 10.
 products on London market, 1897, 15, 272.
 quality of rough-stalked meadow grass seed, 1898, 484.
- Department grounds, improvement, 1897, 202.
 of Agriculture, age and pay of division chiefs, 1896, 16.
 amount of money returned to Treasury, 1895, 61.
 appropriations, 1896, 658; 1897, 622; 1898, 596; 1899, 670;
 1900, 636.
 cooperation with experiment stations, 1899, 525.
 duties, 1894, 100.
 early publications, 1897, 209, 210.
 exhibit at Atlanta Exposition, 1895, 503-519.
 extension of civil-service rules, 1896, 10.
 facilities for post-graduate instruction in agricultural
 science, 1898, 18.
 functions in foreign meat trade, 1897, 10.
 geographic distribution of work, 1896, 15.
 investigation of Texas fever, 1899, 126.
 library, 1899, 504.
 loss of valuable services by low salaries, 1896, 17.
 necessity for new building, 1895, 62.
 of settled policy for settled work, 1896, 14.
 need of qualified agents, 1897, 57.
 note on teaching of farmers to feed crops, 1899, 234.
 number of dietary studies, 1898, 442.
 object and character of work, 1896, 10.
 organization, 1894, 523; 1895, 523; 1896, 555; 1897, 619;
 1898, 593; 1899, 667; 1900, 633.
 origin and development, 1894, 99.
 original research, 1899, 182.
 plans and policies, 1897, 58.
 policy as to sugar beets, 1897, 10.
 promotion of reading among farmers, 1899, 511.
 propagation of foreign plants, 1897, 187.
 proportion of scientific work, 1896, 13.
 proposed control of introduction of exotic animals, 1898,
 110.
 help in training of women, 1897, 19.
 provision for chemists in organic act, 1899, 236.
 publications as material for text-books, 1899, 181.
 publications, list, 1895, 616-626; 1896, 636-657; 1897,
 627-635; 1898, 601-609; 1899, 676-688; 1900, 686-696.
 report of Secretary to the President, 1895, 9-68.
 scope of work, 1897, 9.
 seed-selection experiment, 1896, 310.
 seed testing, 1899, 573.
 sentiment, favoring establishment of office, 1896, 15.
 summary of work of divisions, 1899, 9-11.
 tests of forage plants, 1897, 162.
 United States, origin, 1899, 165.
 work as illustrated at Atlanta Exposition, article by Robert
 E. Wait, 1895, 503-522.
 for farmer, 1897, 59-278.
 farmer's home, 1897, 18.
 printing office, statement of work, 1894, 52.
- Department's usefulness, remarks by Secretary, 1899, 44.
- Dermestes vulpinus* (leather beetle) injury to tobacco, 1898, 148.
- Desert and semiarid regions, modifications of perennial plants, 1897, 507.
 land law, operation, 1899, 603.
 lands, public, laws for sale to citizens, 1898, 350.
 region of United States, native pasture grasses, 1900, 595.
- Deserts in Western States, moisture of soil at slight depths, 1897, 433, 434.
 relative humidity, 1897, 436.
- Desiccation. (See Drying out.)
- Desmia maculalis* (grape leaf folder), description, methods of injury, and distribution,
 1895, 398.
- Dew point, table showing how it may be determined, 1895, 150.
- DEWEY, LYSTER H., article on "Migration of weeds," 1896, 263-286.
 "Weeds in cities and towns," 1898, 193-200.

- Dewey, Melvil, origination of traveling libraries, 1899, 509.
- Diabrotica longicornis* (worm) and *D. vittata* (beetle), remedies, 1894, 573.
- 12-punctata* (corn-root worm) injury to tobacco and tomato, note, 1898, 144, 255.
- Diagrams and tables, for weather, explanation, 1898, 639.
- Diatraea saccharalis* (stalk borer), remedies, 1894, 573, 574.
- Dick, Professor, view as to origin of pleuro-pneumonia, 1899, 110.
- Dickcissel, food of nestlings, 1900, 420.
- Dicyphus minimus* (suck fly), notes on injuries to tobacco, remedies, 1898, 135.
- Diet and food, discussion, 1894, 357.
- bird, various articles, 1894, 239.
- hygienic, necessity of fruit, 1897, 436.
- of crow blackbird, observations, 1894, 235.
- place of potatoes, discussion, 1900, 347.
- Dietaries, method of calculating, 1897, 112.
- of laboring people, 1894, 376.
- studies, 1899, 407.
- Dietary, effect of change of location, 1898, 443.
- some effects of different combinations of food, 1898, 447.
- standard, daily, 1894, 369.
- standards, discussion, 1897, 679.
- studies, American, table showing summary, 1898, 450.
- brief statement of method, 1898, 440.
- in United States, some results, article by A. P. Bryant, 1898, 439-452.
- ways for use of results, 1898, 451.
- "Diffusion" process in sugar making, 1898, 214.
- Digestibility effect of sterilization, 1894, 341.
- of feeding stuffs, 1894, 562.
- food, 1894, 367.
- materials, study, 1899, 408.
- potatoes, discussion, 1900, 344.
- Digestion experiments, work of experiment stations, 1899, 537.
- Digger Indians, note on use of seed of sea lyme grass for food, 1898, 313.
- Dill seed, use in producing oil, 1895, 1895, 204.
- Dipped cattle, removal of quarantine restrictions, 1898, 469.
- Dipping cattle for ticks, conditions for success, 1898, 471.
- note by Secretary, 1898, 12.
- success in 1898, 1898, 470.
- tests of travel, long and short trips, 1898, 462, 463, 464.
- note on discussion at meeting of live-stock boards, 1898, 470.
- summary of 1898 experience, 1898, 471.
- experiment, conclusion as to cause of loss of cattle, 1898, 467.
- for Texas fever, statement by Secretary, 1898, 28.
- of cattle, difference with weak and with strong animals, 1898, 465.
- experimental and practical, article by Victor A. Nørgaard, 1898, 453-472.
- for Texas fever ticks, causes of failure, 1898, 455, 456, 457, 458.
- importance of good condition of animals, 1898, 469.
- plants for cattle, notes on operations for 1898, 1898, 470.
- vat, first in use for cattle with Texas fever ticks, 1898, 455.
- Dips for sheep scab, remarks, 1899, 453.
- Director of scientific work, need in Department of Agriculture, 1896, 13.
- Dirt roads. (*See Earth.*)
- Disbudding and pinching, usefulness in pruning apple and similar fruit, 1898, 162.
- as method of pruning, 1898, 154.
- practice in short spur training of grapes, 1896, 534.
- Disbursements and accounts, annual review, 1897, 58.
- general statements, 1898, 61.
- Disbursing Office and Division of Accounts, organization and duties, 1894, 525.
- Discharges of ditches and velocities for different grades, 1900, 494.
- Disease germs, comparative resistance to formaldehyde, 1896, 260.
- experiments with formalin in destruction, 1896, 260.
- of plants, cause of losses, 1897, 100, 103.
- Department investigations, 1897, 110.
- early suggestions by William Saunders, 1897, 182.
- of rabies, discussion of existence and early recognition, 1900, 221.
- periods of incubation, or latency, 1900, 740.
- spreading agencies, control at slaughterhouses, 1896, 162.

- Diseases, animal and human, remarks on similarity, 1895, 432.
 checks at slaughterhouses, 1896, 166.
 control of disseminating agencies at slaughterhouses, 1896, 163.
 fungous, of forest trees, article by Hermann von Schrenk, 1900, 199-210.
 plants, list and methods of treatment, 1895, 587.
 infectious, milk, butter, and cheese as carriers, 1895, 431.
 possibility of transmitting by oleomargarine; experiments, 1895, 449.
 of the pineapple, description and remedies, 1895, 281.
 trees, attacks on trunks and branches, 1896, 252.
 plant study in Division of Vegetable Physiology and Pathology, 1898, 264.
 prevention of spread from slaughterhouses, 1896, 161.
- Disinfectants, conditions of highest usefulness, 1896, 257.
 some modern, article by E. A. de Schweinitz, 1896, 255.
 summary of conclusions as to formaldehyde, 1896, 260.
- Disinfecting solution, use and composition in cutting out pear blight, 1900, 391.
- Disinfection, experiments with varying solutions of formaldehyde, 1896, 258.
 for pleuro-pneumonia, notes, 1899, 443, 444.
 need of compulsory, for stock cars and pens, 1897, 25.
 of rooms, use of formaldehyde, 1896, 261.
 remarks on nature, 1896, 255.
- Distichlis maritima* (alkali grass), crop suitable for alkali soils, 1895, 119.
 distribution, and value on alkali soils, 1900, 596.
 spicata (spike grass), description and characteristics, 1895, 330.
- Distillate (kerosene) for use against scale insect, method of preparation, 1900, 260.
- Distillation, use in extraction of oil for perfumery, 1898, 379.
- District of Columbia, beginning of investigations of rabies, 1900, 211.
- Ditch, cost of building and maintaining, 1900, 511.
 line, directions for locating with triangle and plumb bob, 1900, 498.
 lines, choice and selection of site for head gate, 1900, 501.
 method of marking line with furrow, 1900, 503.
- Ditches for country roads, notes, 1898, 319.
 irrigation, construction and use, 1896, 190.
 methods of irrigation, in California, 1895, 484.
 relation of grade to economy of construction; running grade lines, 1900, 492, 495, 496.
 velocities and discharges for different grades, 1900, 494.
- Division of Accounts and Disbursements, Botany, etc. (*See* Accounts and Disbursements, Botany, etc., Division.)
- Dock, use as a pot herb, 1895, 209.
- Document and Folding Room, organization and duties, 1894, 525.
 statement of work, 1894, 52.
- Documents, distribution and sale, 1898, 59.
 issued by Office of Experiment Stations, 1894, 115.
 Superintendent, notes on duties, 1899, 676.
- DODGE, CHAS. RICHARDS, article on "Facts concerning ramie," 1894, 443-460.
 "Hemp culture," 1895, 215-222.
 "The present status of flax culture in the United States," 1897, 471-486.
 review of work of Section of Fiber Investigations, 1897, 224-235.
- DODGE, MARTIN, article on "Steel-track wagon roads," 1898, 291-296.
- Dog, communicability of disease to man, 1900, 225.
 symptoms of furious rabies, 1900, 231.
 table on incubation of rabies; limit of safety after inoculation, 1900, 235, 236.
 tax and license as means of prevention of rabies, 1900, 242.
- Dogs, agents in spreading disease from slaughterhouses, 1896, 160.
 and other animals, statistics of cases of rabies; prevention of rabies, 1900, 228, 242.
 association of breeders, 1898, 615; 1899, 697; 1900, 652.
 early law for control at Ipswich, Mass., 1899, 209.
 muzzling as cause of disappearance of rabies in Berlin, 1900, 244.
 relation to danger from rabies, 1900, 20.
 table showing cases of rabies by months, 229.
- Dog's-tail, crested, number of seeds per pound, amount to sow, etc., 1894, 570.
 grass, crested, adulteration of seed, 1898, 480.
- Domestic animals, construction of calorimeters, 1899, 412.

- Domestic animals, dates of first use in United States, 1899, 310-312.
 - determination of age by teeth, 1898, 667.
 - in Alaska, note, 1900, 61.
 - temperature, pulse, and respiration; periods important in breeding, 1900, 740.
 - goats, statistics on number in United States, 1898, 422.
 - science, department in schools, 1897, 17.
 - value of Department investigation, 1897, 18.
- Domesticated animals, danger of becoming injurious, 1898, 88.
- Dominique chickens, description, advantages and weights, 1896, 447.
- Dorking chickens, advantages, varieties, and weights, 1896, 469.
- Dorsett, P. H., experiments with violet cuttings, 1898, 373.
 - observations on heading of lettuce, 1898, 372.
- Doryphora 10-lineata* (potato beetle) and *Drasterius elegans*, remedies, 1894, 574.
- Doticus, apple borer, in Australia, 1897, 547.
- Douglas fir, observations on growth in Washington State, 1898, 190.
- Dove, mourning, consumption of weed seed, 1898, 232.
 - or turtle, habit of feeding on wheat, 1897, 352.
- Downing, A. J., suggestion of cross fertilization, 1899, 472.
 - Mr., note on plan for arboretum at capital, 1899, 66.
 - on fermentation of cider, 1898, 314.
- Downy mildew of grape, treatment, 1894, 577.
- Drainage, artificial, recommendation for alkali lands, 1899, 26.
 - care in dairy, 1896, 442.
 - effect in spreading disease from slaughterhouses, 1896, 156.
 - for date palms, necessity, 1900, 472.
 - necessity in case of overirrigation, 1898, 504.
 - object in road building; for corduroy road, 1900, 188, 197.
 - of alkali lands, 1898, 502.
 - roads, discussion, 1898, 319.
 - relation to potash and other fertilizers, 1896, 127.
 - "top dry" of trees due to lack, 1896, 241.
 - underground, principles discussed, 1895, 129.
- Drains, notes on use on country roads, 1898, 318.
- Drake Star orange, immunity from rust, 1897, 417.
- Dressed beef, adaptation for shipment; imports into United Kingdom, 1894, 12.
 - meats, freight rates, Chicago to New York, 1875 to 1895, 1896, 598.
 - wholesale prices in London market, statistics, 1896, 26.
- Dried apples and other dried fruits, exports, 1897, 344.
 - fruit, comparison of sun drying with evaporation, 1898, 310.
 - relation to San Jose scale, 1899, 15.
- Dried fruits, discussion, 1897, 312-319.
- Drilling of wheat, remarks, 1900, 541.
- Driving, pleasure, range of grade of roads, 1900, 184.
- Drought, cause in Southeastern States, 1897, 613.
 - condition, relation to frost, 1897, 64.
 - determination of line, 1897, 45.
 - effect upon grain, alfalfa, etc., 1900, 510.
 - the plains region from Montana to Texas, 1896, 168.
 - endurance of barnyard millet, 1898, 278.
 - grouping of years from 1871 to 1896, 1897, 614.
 - observations on effect on soil moisture, 1898, 403.
 - period of danger in Eastern States, 1897, 130.
 - resistance of buffalo grass, note, 1900, 592.
 - millets, 1898, 273, 274.
 - resistant wheats, notes, 1900, 533-537.
- Droughts in central valleys of United States, breaking, 1897, 76.
 - fruit season of 1899, 1899, 748.
 - power of withstanding in Western soils, 1897, 430.
- Drugs, native, discussion by Secretary, 1899, 63.
- Drug-store beetle, injury to dried tobacco, 1898, 148.
- Drum, General, note on administration of weather service, 1899, 78.
- Dry wine grapes, varieties, 1898, 559.
- Drying and harvesting Smyrna figs, 1900, 93.
 - off of cows and calving time, 1894, 396.
 - out, injuries to trees, 1896, 243.
- Dryobates pubescens* (downy woodpecker), discussion; food of nestlings, 1900, 292, 427.
 - villosus* (woodpecker), destruction of insects, 1900, 293.

- Ducks, food of nestlings, 1900, 435.
 Dumb rabies of dog, symptoms, 1900, 233.
 DUNWOODY, H. H. C., article on "The value of forecasts," 1894, 121-128.
 proposal for State cooperation in climate and crop service,
 1899, 87.
 Durum and Poulard wheats, resistance to leaf rust, 1898, 262.
 Durums (macaroni wheats), region of growth and use, 1896, 492.
 Dutch East Indies, notes on tobacco exhibit at Paris Exposition, 1900, 157.
 "Duty of water," factors causing variation, 1896, 193.
 statement of limits, 1896, 194.
 Dwarf plants, methods of production, 1896, 102.
 Dwarfing, processes, 1898, 153.
 Dwarf-pear orchards of United States, remarks, 1900, 370.
 Dymond, Hon. John, statement on wages in Louisiana, 1898, 580.
 Dynamite, attempts to destroy fruit bats in Australia, 1898, 98.
 Dynamo oil and sulphur, conclusions as to use for dipping for cattle ticks, 1898, 471.

E.

- Eagle, bald and golden, notes, 1894, 227.
 EARLE, F. S., article on "Development of the trucking interests," 1900, 437-452.
 Parker, description of experiment in refrigeration, 1900, 444.
 Earnings of farm laborers in 1890, 1897, 590.
 Earth roads, construction, 1898, 320.
 Earthnut (peanut), use in production of oil, 1895, 196.
 East Indies, Dutch, notes on tobacco exhibit at Paris Exposition, 1900, 157-166.
 experiments with rubber plants, 1899, 62.
 Eastern and Western United States, comparison of soils, 1897, 129.
 States, note on supply and use of rainfall, 1897, 432.
 variety of soils, 1897, 126.
Eatonia obtusata, value as a forage plant, analysis, 1895, 317.
Echinococcus hydatid (tapeworm), presence in cattle, hogs, and sheep, 1896, 160.
Echocerus maxillosus (flour beetle), notes, 1894, 289.
 Economic entomology, entomologists, etc. (*See* Entomology, etc.)
 Economics for the farmer, remarks by the Secretary, 1896, 36.
 in Department of Agriculture, relation to efficiency, 1896, 10.
Ectopistes migratorius (passenger pigeon), food of nestlings, 1900, 431.
 notes on extermination, 1899, 269.
 Edibles imported, inspection suggested, 1894, 12.
 EDITOR, the (GEO. WM. HILL), biographical sketch of William Saunders, 1900, 625-630.
 Education, agricultural, beginning, 1899, 161.
 colleges and relations to other schools, 1898, 63, 74, 75.
 comparative view in the United States, 1896, 369.
 courses of study, etc., of Agronomic Institute in France,
 1900, 117.
 discussion by Secretary, 1899, 67.
 enumeration of most efficient means, 1897, 285.
 extension and popularization, 1898, 48, 49.
 Government aid to private schools in Belgium, 1896, 366.
 in 1900, American system, 1899, 181.
 France, article by C. B. Smith, 115-130.
 the United States, article by A. C. True, 1899, 157-190.
 needs in United States, 1896, 370.
 recent general organization in Belgium, 1896, 363.
 work in primary schools of Belgium, 1896, 368. (*See also*
 Agricultural education.)
 and research, agricultural, in Belgium, article by A. C. True, 1896, 361-370.
 higher institutions in Belgium, 1896, 363.
 European method of promoting, compared with American method, 1896,
 361.
 for farmer, best way to reach rural school, 1897, 284.
 features of New York plan, 1897, 283.
 importance of farmers' institutes, 1899, 187.
 in agriculture, early lack and recent preparation of books, 1899, 180
 provision by Congress, 1897, 9.
 instruction in forestry, 1899, 305.
 of farmer, summary of progress, 1897, 289.
 development of general agencies, 1899, 181.

- Education, popular, for the farmer in the United States, article by A. C. True, 1897, 279-290.
 rural, reading circles as means, 1897, 293.
 scientific and technical, development, 1899, 165.
- Educational features of plant-disease work, development, 1899, 199.
 institutions having courses in agriculture, 1895, 557; 1896, 603.
 note on effect on diet, 1898, 445.
 movement for home work for women, 1897, 17.
 results of experiment station work, 1899, 547.
 system, agricultural, of France, summary of factors, 1900, 129.
- Edwards, R. J., statement as to success of dipping cattle for ticks, 1898, 470.
- Eggplant, note on introduction of new variety, 1900, 141.
- Eggs, annual number, color, and weight for several breeds of chickens, 1896, 446, 450, 459, 465, 466.
 imported into United Kingdom from various countries, 1893-1895, 1895, 30.
 imports and exports, 1891-1895, 1895, 548. (*See also Imports*.)
 of birds, discussion of uses, 1899, 270-272.
 wholesale prices, 1899, 812; 1900, 835.
- Egleston, N. H., succession as chief of Division of Forestry, 1899, 301.
- Egret, destruction for feathers, 1899, 273.
- Egypt, imports of cotton into United States, 1897, 117.
 use of cheap labor in irrigation, 1896, 181.
- Egyptian clover, note on introduction, 1900, 140.
 corn, crop suitable for alkali soils, 1895, 121.
 cotton, discussion by Secretary, 1899, 64.
 experiments in ginning, 1897, 33.
 Jannovitch, notes on introduction and value, 1900, 144.
- Eichornia speciosa* (water hyacinth), injury by freezes in Florida in 1894-1895, 1895, 173.
- Eilert, inoculation of sheep with anthrax, 1899, 115.
- Eisen, Dr. Gustav, studies and writings on fig-growing, 1900, 81, 82.
- Elder, box, growth on the Western plains, 1895, 346.
- ELDRIDGE, MAURICE O., article on "Construction of good country roads," 1898, 317-324.
 "Progress of road building in the United States," 1899, 367-380.
- Electric roads, preference to wagon roads for Porto Rico, 1898, 510.
- Electrical method of determination of moisture in soil, 1897, 46, 131, 436; 1899, 344; 1900, 403.
 thermometer and its uses in determination of soil moisture, 1900, 405.
- Electrification in cold waves, benefit to man and animals, 1897, 75.
- Eliot, Jared, conservative forestry in connection with blast furnace, 1899, 416.
 note on essays, 1899, 1, 58.
- Ellsworth, Henry L., experimental work with seeds, etc., 1899, 513.
 publication as to distribution of seeds, 1897, 208.
 recommendation for Government aid to farmers, 1899, 165.
- Elm, tree suitable for alkali soils, 1895, 121.
- Elm-leaf beetle, destruction by spraying, 1896, 82.
 imported, 1894, 573.
- Elms, ashes, maples, and other varieties, characteristics and uses, 1897, 664.
 note on value for planting, 1900, 152.
- Elymus arenarius* (lyme grass), notes, 1894, 428.
 use in binding sands, 1898, 412.
 arenicolus, usefulness as sand binder, 1898, 419.
 condensatus (rye grass), crop suitable for alkali soils, 1895, 121.
 flavescens, description; usefulness as sand binder, 1898, 418.
 spp. (wild rye grass), value as a forage plant, 1895, 318.
- Emasculation, notes on hybridization of plants, 1897, 388.
- "Emergency warnings" in weather service, note, 1899, 90.
- Emmenthal cheese at Paris Exposition, 1900, description, 1900, 619.
- Emmer, note on introduction from Russia, 1900, 140.
- Emulsion, kerosene and milk, formula, 1895, 585.
 soap, formula, 1895, 584.
 preparation and use as insecticide, 1894, 575.
- Emulsions, kerosene, preparation and use for insects, 1898, 660.
 preparation and use against insects, 1897, 639.
- Endowments and other support of agricultural schools, 1898, 64, 69, 70, 74, 75, 77, 79.

- Engine, locomotive, improvements, 1899, 649.
- Engineer, road, note on need in country work, 1898, 318.
- Engineers, value of information from Weather Bureau, 1897, 69.
- Engines, use of steam, gas, and hot air for irrigation, 1896, 186.
- England, amount of sodium nitrate used for manurial purposes, 1895, 90.
 average prices of wheat, 1841 to 1896, table, 1897, 594.
 conditions on individual farms, 1898, 585.
 inoculation experiments with commercial bacteria, 1897, 299.
 Midland Railway, passenger rates, 1899, 663.
 note on law in regard to feeding stuffs (*See also* London), 1897, 426.
 (*See* Great Britain; *also* United Kingdom.)
 superiority of oil of lavender, 1898, 389.
 wholesale prices of lard in 1894 and 1895, 1895, 18.
- English farms and farmers, notes, article by Geo. Wm. Hill, 1898, 583-589.
 conclusions from review of conditions, 1898, 589.
 notes on length of tenancy, 1898, 588.
- market, prospect for prices for American beef, 1896, 28.
- markets for American horses, 1894, 22.
 wheat, 1894, 19.
- merchants, good effects of experimental shipments of butter, 1897, 256.
- rye-grass seed, notes on harvesting, etc., 1898, 490.
- sparrow, introduction and injuries in United States, 1898, 98-100. (*See also* Sparrow.)
- walnut scale, notes, 1894, 264.
- Engraving, peculiarities of wood required, 1896, 412.
- Ensilage congress, remarks, 1899, 617.
 history of practice, 1899, 616.
 use of cowpeas, 1896, 293.
 millet, 1898, 286.
 value as food for stock, 1899, 620.
- Entomological Commission, U. S., appointment and membership, 1899, 141.
 investigations by State of New York, 1899, 138.
 in contemplation, 1897, 39.
- writers, occasional; list, 1899, 139.
- Entomologists, economic, founding of association, 1899, 142.
- Entomology, beginning of general interest, 1899, 141.
 Division, annual review of work, 1897, 38.
 comments on operations by Secretary, 1895, 51.
 exhibit at Atlanta Exposition, 1895, 513.
 first importation of ladybird enemy of fluted scale, 1899, 154.
 investigation of orange fruit worm in Mexico, 1897, 543.
 observations by Secretary, 1898, 30.
 organization and duties, 1894, 41, 524; 1895, 51, 524; 1896, 556; 1897, 38, 620; 1898, 30, 594; 1899, 9, 15, 668; 1900, 11, 27, 634.
 origination of use of hydrocyanic acid gas against insects, 1899, 150.
 publications, 1895, 620; 1896, 643; 1897, 630; 1898, 604; 1899, 680; 1900, 690.
 review of work for farmer, by L. O. Howard, 1897, 84-90.
 work of the year, 1894, 41.
- economic, commencement of investigations by General Government, 1899, 138.
 present standing of United States, 1899, 155.
 progress in remedial discoveries, discussion, 1899, 144-153.
 United States, article by L. O. Howard, 1899, 135-156.
 remarks on international work, 1899, 153.
 some of the workers and causes of success, 1899, 136.
- work of experiment stations, 1899, 545.
- Entomosporium maculatum* (fungus), cause of leaf blight in pear, 1900, 388.
- Enzymes, note on relation to flavor of tobacco, 1899, 27.
- Ephestia kuehniella* (flour moth), notes, 1894, 283.
- Epicauta cinerea*, *E. pennsylvanica*, and *E. vittata* (blister beetles), remedies, 1894, 573.
- Epilachna corrupta* (ladybird), notes, 1898, 251.
- Epitrix parvula* (flea beetle), description, injuries to tobacco, remedies, 1898, 123-128.
- Eragrostis pectinacea* and *Triodia purpurea* (false redtops), value as forage plants, 1895, 318.

- Erie Railroad, early construction for roadbed, 1899, 649.
- Ermine (moth), enemy of apple tree, note, 1897, 550.
- Erni, Henry, note on report on wine making, 1899, 237.
- Erosion, prevention by tree planting, 1896, 325.
- Erythroneura vitis* (grapevine leaf hopper), remedies, 1894, 573.
- Espy, study of temperature processes, 1899, 74.
- Ether, early use in refrigeration, note, 1900, 566.
- Eucalyptus amygdalina*, tree suitable for alkali soils, 1895, 121.
- *globulus* (blue gum tree), introduction by William Saunders, 1900, 628.
- note on antiperiodic properties, 1897, 191.
- planting in California, note, 1899, 428.
- value in drying marsh lands, 1897, 192.
- Eudamus proteus* (bean leaf-roller), notes, 1898, 259.
- Eudemis botrana* (grape berry moth), description, methods of injury and distribution, 1895, 402.
- Euphorbia lathyris* (European spurge), seed for producing oil, 1895, 193.
- Europe as a source of danger from injurious insects, 1897, 530.
- market for cattle, development, 1899, 631.
- discussion of flax culture, 1897, 474.
- fear of Texas fever in early days of investigation, 1897, 242.
- inspection as means of opening ports, 1897, 23.
- investigations of pleuro-pneumonia, 1899, 110.
- note on adulteration of Kentucky blue-grass seed, 1898, 482.
- summaries of reports on agricultural education, 1897, 138.
- prohibition of American pork, 1897, 247.
- pulp feeding, 1898, 213.
- seed-testing work, 1899, 571.
- uses of skim milk, 1897, 519, 520.
- European bean weevil, importation, life history, 1898, 247.
- countries, control of feeding stuffs, 1897, 426.
- destructive insects, dangers of importation, 1897, 548.
- food crops, relation to world's supply; shortage in 1891, remarks, 1900, 167, 170.
- grapes, note on test in South Atlantic States, 1900, 36.
- horse markets, investigation, 1897, 277.
- larch, experiment in Illinois, 1896, 333.
- markets, canning rabbit meat, 1898, 93.
- pear, success on Pacific coast, 1899, 477.
- song birds, mistaken efforts of society for introduction, 1898, 107.
- standard of daily dietary, 1897, 680.
- varieties of pear, susceptibility to leaf blight, 1900, 389.
- vines, attempts to cultivate in America, 1899, 197.
- weeds, predominance in United States, 1896, 284.
- Eurotia lanata* (winter fat), notes, 1898, 547.
- Euschistus variolarius*, injuries to tobacco, 1898, 136.
- Evans, Oliver, invention of steam engine, 1899, 645.
- EVANS, WALTER H., article on "The agricultural outlook of the coast region of Alaska," 1897, 553-576.
- Evaporated potatoes, nutritive value, 1900, 344.
- Evaporation as process of saving fruit, 1898, 310.
- controlling, 1894, 174.
- from foliage, loss of water, 1894, 173.
- soils, controlling influences, 1897, 45.
- loss of water in irrigation, 1896, 187; 1900, 495.
- of fruit, time of exposure, 1898, 311.
- relation to availability of rainfall, 1897, 129.
- forest in saving soil, 1897, 146.
- Evaporators, discussion of kinds, 1898, 312.
- Everglade kite, notes, 1894, 218.
- Evergreens, injury by drying out, 1896, 243.
- treatment to prevent winter blighting, 1896, 244.
- EWELL, ERVIN E., article on "Every farm an experiment station," 1897, 291-304.
- outline of relations of study of nitrifying organisms to practical agriculture, 1899, 246.
- Examinations, competitive, Division of Statistics, 1894, 55.
- Executive Departments, cooperation of Division of Chemistry, 1900, 25.
- officer, additional need in Department of Agriculture, 1896, 14.

- Exhibitions, agricultural, in France, encouragement and instruction, 1896, 546.
- Expedition, Death Valley, results, 1894, 206.
- Expenditures and receipts, general statements, 1898, 61.
 for fiscal years, 1894 to 1897, inclusive, 1896, 9, 10.
 on pay roll, 1894, 48.
 reduction, 1894, 47; 1896, 9.
- Experiment station, agricultural, of Iowa, experiments in manufacture of cheese,
 1895, 470.
 at Gembloux, Belgium, 1896, 369.
 attempted establishment by private funds, 1899, 517.
 for Alaska, site, 1898, 50, 523.
 funds, proper use, 1897, 49.
 Minnesota, experiments with humates, 1895, 136.
 of Bureau of Animal Industry, change, 1897, 26.
 note, 1900, 21.
 officers, remarks by Secretary on choice, 1898, 47.
 question of establishment in Alaska, 1896, 46.
 record, character of contents, 1897, 139.
 publication, 1899, 527.
 subject of fertilizer control, 1899, 338.
- stations, agricultural, 1894, 103, 113.
 defense of farmer against fraud, 1899, 546.
 in Alaska, Hawaii, Porto Rico, and Philippines,
 1900, 159, 63, 64.
 United States, article by A. C. True, 1899,
 513-548.
 locations, directors, and lines of work, 1894, 526;
 1895, 558; 1896, 604; 1897, 624; 1898, 598; 1899,
 672; 1900, 638.
 remarks on work, 1895, 36.
 and agricultural colleges, organization of association, 1899, 171.
 laboratories in French agricultural schools, 1900, 129.
- appropriations, 1894, 49.
- call for attention to Department regulations, 1896, 45.
- collaboration of chemists with Division of Chemistry, note,
 1899, 245.
- cooperation in plant introduction, 1900, 131-144.
- dissemination of information, 1899, 540.
- duties, 1899, 519.
- establishment by Congress, 1899, 518.
 States and colleges, 1899, 516.
- examination of work and report to Congress, 1896, 43.
- funds and accounts, 1896, 45.
- general results of work, 1899, 542-548.
- growth, 1899, 521-525.
- help from Office of Experiment Stations, 1899, 526.
- impetus to study of plant diseases by establishment, 1899, 195.
- lines of work, 1899, 533-548.
- National and State aid, remarks by Secretary, 1899, 32.
- need in Porto Rico, 1898, 512.
- note on agreement for cooperation with Department of Agriculture, 1900, 39.
 experimental planting, 1898, 189.
 increase of work, 1898, 12.
 work with leguminous plants, 1898, 39.
- notes on connection with agricultural colleges, 1898, 70, 72, 73.
- nutrition investigations, 1896, 46.
- of United States, location and work, 1897, 624-626.
- Office, cooperative nutrition investigations, 1899, 411.
 establishment and work, 1899, 526.
 exhibit at Atlanta Exposition, 1895, 516.
 publications, 1895, 618; 1896, 644; 1897, 138, 631; 1898,
 605; 1899, 681; 1900, 691.
 relation to agricultural colleges, 1897, 141.
 stations, 1899, 521.
- review of work for farmer, by A. C. True, 1897, 135-143.
- work, organization, and duties, 1894, 37, 524; 1895, 35, 525;
 1896, 556; 1897, 48-50, 620; 1898, 12, 46-54, 594; 1899,
 10, 31-40, 668; 1900, 13, 55-67, 634.

- Experiment stations, proper functions, mistakes, 1896, 44.
 - province in testing wheat, 1896, 492.
 - remarks by Secretary, 1896, 43.
 - removal of obstacles to agricultural industries, 1899, 546.
 - rôle of chemistry, 1899, 226.
 - State agricultural, applied agrostology, 1899, 362.
 - entomological work, 1899, 141.
 - systematic agrostology, 1899, 366.
 - cooperation with Department, 1898, 36, 38.
 - trials of new varieties of plants, 1900, 137.
 - usefulness and needs, 1898, 46.
 - subjects of inquiry, 1899, 524.
 - suggestion of crossbreeding of wheat, 1896, 494.
 - supervision of expenditures by Secretary, 1894, 38; 1895, 35.
 - verification and demonstration investigations, 1899, 538.
- Experimental farm at Arlington, note, 1900, 77.
 - gardens and grounds, Division, publications, 1899, 683.
 - distribution of plants, 1898, 14.
 - shipments of dairy products, remarks of Secretary, 1900, 22.
 - work in Alaska, beginning, 1898, 516.
 - relation to farm and scientific apparatus, 1897, 292.
 - with minor insecticide substances, 1899, 152.
- Experimentation demonstrating existence of rabies, remarks, 1900, 222.
 - necessity in investigation, 1899, 94.
- Experiments, agricultural, agencies for conducting, 1899, 320.
 - cooperation of Government and individuals in France, 1896, 547.
 - demonstration of nature of anthrax, 1899, 122.
 - in selection for improvement of plants, notes, 1898, 366.
 - results in early sowing of wheat, 1896, 491.
 - to determine cause and dissemination of Texas fever, 1899, 130.
- Expert assistants in Department, remarks of Secretary on difficulty of retaining, 1900, 77.
- Explorations with kites, objects, 1898, 207.
- Explorers (agricultural) suggestions as to methods of employment, 1900, 134.
- Export animals and vessels, statistics of inspection, 1900, 17.
 - inspection, 1897, 21.
 - before shipment, 1899, 456.
 - cattle, inspection, tagging, and certification, 1897, 244.
 - regulation of ships in trade, 1897, 245.
 - saving by regulation of vessels, 1897, 258.
 - of pork, table showing microscopical inspection, 1892-1897, 1897, 20.
 - productions of Porto Rico, 1898, 508.
 - statistics of microscopically inspected pork, 1899, 463.
 - tobacco, curing and uses, 1899, 434.
 - localities of production, notes, 1899, 430.
 - trade in seed, 1899, 557.
 - necessity for protection from Texas fever, 1897, 242.
- Exports, agricultural, average prices, statistics, 1897, 751; 1898, 720; 1899, 838; 1900, 856-858.
 - remarks of Secretary, 1900, 68.
 - statistics, 1894, 540-542; 1895, 543-547; 1896, 585-590; 1897, 743-748; 1898, 712-717; 1899, 829-835; 1900, 847-853.
 - of development, 1899, 325.
 - experimental, of dairy products, 1899, 464.
 - farm products, discussion, 1897, 590.
 - total increase and percentage in 1896, 1896, 52.
 - of beef to United Kingdom, 1893-1895, 1895, 22.
 - cheese to Great Britain, beginning, 1899, 384.
 - cotton from United States, 1899, 771.
 - dairy products, statement of Secretary on practicability, 1898, 15.
 - to United Kingdom, 1893-1895, 1895, 29.
 - fruits and fruit products, 1897, 343.
 - hog products to United Kingdom, 1893-1895, 1895, 17.
 - leaf tobacco from the United States, statistics, 1899, 439, 440.
 - Porto Rico for 1897, 1898, 513.
 - principal crops, statistics, 1899, 759, 771.
 - raw cotton, 1890-1896, 1896, 596.
- Exposition, Atlanta. (*See* Atlanta Exposition.)
- Express shipment of truck; strawberries, 1900, 441, 444.

F.

- Factories, beet sugar, new, 1899, 744.
 cheese and butter, establishment, 1899, 384.
 management, 1899, 387.
- Factory system of dairying, some features, 1899, 386.
- Fairs, agricultural, at Washington, 1894, 84.
 for educational purposes, 1899, 160.
- Fairy ring fungus, and other fungi, description, 1897, 463.
- Falco sparverius* (sparrow hawk), food of nestlings, 1900, 430.
- Falcon, Aplomado and prairie, notes, 1894, 228.
- Fall plowing, remedy against bud worms in tobacco field, 1898, 134.
 webworm, present distribution and remedies, 1895, 376.
 remedies, 1894, 574.
- Fallowing, summer, for increasing nitrogen in the soil, 1895, 134.
- False flax, seed, use in producing oil similar to rape-seed oil, 1895, 202.
 redtop, value as a forage plant, 1895, 314, 318.
- Fanning mill, use in cleaning seed, 1896, 307.
- "Faracurd" skim-milk product, notes, 1897, 528.
- Farcy and glanders, discussion, 1899, 96.
- FARLOW, W. G., article on "Some edible and poisonous fungi," 1897, 453-470.
 articles on plant diseases, 1899, 193.
- Farm, advantages from trees planted in waste places, 1896, 324.
 American, lack of attention to temporary pastures, 1899, 616.
 and dairy, succulent forage; article by Thomas A. Williams, 1899, 613-626.
 animals and crops, principal statistics, 1897, 710-735.
 principal crops, statistics, 1899, 759-821.
 their products, prices, 1900, 824-835.
 average price, etc., 1897, 734.
 value, 1879-1898, 1897, 733.
 feeding stuffs, composition, rations, 1896, 324.
 fertilizer value of food, 1897, 296.
 implements and machinery, value, 1897, 262.
 increase and decrease, 1897, 584.
 injury by poison hemlock, 1896, 142, 143.
 number and value: 1895, 533; 1896, 574; 1897, 733; 1898, 701; 1899, 818;
 1900, 824-835.
 statistics as to numbers in 1884, 1897, 238.
 table of number and value, 1897, 263.
 work of Bureau of Animal Industry, 1897, 237.
- as experiment station, article by E. E. Ewell, 1897, 291-304.
- capital and products, discussion, 1897, 579.
 property, and product, averages, 1897, 588.
 relation to farm implements, 1897, 590.
- conditions in two English counties, 1898, 584, 585.
- crops and animals, statistics, 1898, 67.
 average yield and value per acre, 1894-1898, 1898, 687, 689.
 influence of transportation facilities, 1899, 335.
 percentage of increase or decrease, 1897, 583.
- fields of demonstration in teaching agriculture in France, note, 1900, 128.
- how affected by forests, 1895, 337, 338, 339.
- implements, relation to product and capital, 1897, 589.
- in connection with agricultural colleges, size, etc., 1898, 64, 68, 69, 70, 74, 76.
- influence of rural free delivery on social life, notes, 1900, 524, 525, 526, 528.
- labor, statistics of wages, 1897, 586.
- laborers, earnings in 1890, 1897, 590.
- lands and negro population in relation to goat raising, 1898, 428.
 fences, and buildings, value, 1897, 262.
 good, estimate for Montana, 1898, 332.
- machinery, distribution of roots and seeds, 1896, 273.
- manures, analyses, 1895, 570; 1896, 615.
 observations as to use, 1897, 295.
- mortgages, discussion of rates of interest by Secretary, 1896, 50.
- place of millets, 1898, 267.
 succulent forage crops, 1899, 614.
- population, statistics by occupations, 1897, 585.
- prices and production per acre, 1897, 593.
 average per bushel for principal crops, 1899, 793-797.

- Farm prices, December 1, 1894, 545; 1895, 536; 1896, 578; 1897, 723-725; 1898, 692; 1899, 793. (*For 1900 see* Corn, Wheat, etc.)
 of wheat and freight rates, 1897, 595.
- products, American, for foreign markets, 1894, 9.
 and feeding stuffs, fertilizing constituents, 1895, 566.
 property, statistics; increase, 1897, 580, 581.
 their value, 1894, 65.
 feeding stuffs, fertilizing constituents, 1896, 611.
 per improved acre, 1897, 592.
 prices on December 1, for five years, 1894, 545; 1895, 536; 1896, 578; 1897, 723; 1898, 692; 1899, 793. (*For 1900 see* Corn, Wheat, etc.)
 recent annual sales abroad, 1896, 52.
 results by hand and machine, 1897, 600-603.
 subsidiary, remarks by Secretary, 1895, 30.
- property, losses by lightning, 1898, 21.
 study of loss by lightning, 1898, 85.
- records, necessity and lack, 1897, 303.
- schools in France, character, work, methods, etc., 1900, 124.
- tenancy, discussion, 1897, 585.
- wages, American, reason for high average, 1896, 54.
- women, school for training in Belgium, 1896, 367.
- Farmer, American, suggestive questions by Secretary, 1896, 53.
 and meteorology, 1894, 117.
 assorting of tobacco, 1899, 435.
 care for soil micro-organisms by management of soil, 1899, 252.
 conditions governing marketing of timber, 1896, 419.
 cost of phosphate fertilizer, 1894, 180.
 defense by experiment stations against fraud, 1899, 546.
 Eastern, intensive farming, 1897, 123.
 economics, remarks by Secretary, 1896, 36.
 education as to improvement of agriculture by experiment stations, 1899, 547.
 effect of irrigation, 1899, 610.
 hawks and owls from standpoint, 1894, 215.
 importance of character of food of nestling birds, note, 1900, 411.
 science, 1897, 293.
 inspiration with hope by work of experiment stations, 1899, 548.
 kind of road needed, 1894, 501.
 Massachusetts, colonial methods of farming, 1899, 309.
 necessity of forestry knowledge, 1897, 144.
 need of libraries, 1899, 491.
 plan for experiment with manure, 1897, 297.
 popular education in United States, 1897, 279-290.
 practical value of soil studies, 1897, 77.
 relation of great horned owl, 1900, 430.
 sportsman in regard to game laws, 1899, 283.
 rights as to control of county slaughterhouses, 1896, 165.
 suggestion for use of experimental plat, 1896, 126.
 utility of forecasts, 1897, 61.
 value of Biological Survey maps, 1897, 119.
 work of Division of Forestry, article by Gifford Pinchot, 1898, 297-308.
- Farmers, agricultural libraries, 1899, 508-511.
 Alliance, aid in general education of farmers, 1899, 181.
 national officers, 1898, 627.
 American, capacity for use of libraries, 1899, 492.
 establishment of chicory-growing industry, 1898, 55.
 and farming, American, notes, 1900, 131, 132.
 forestry, 1894, 461.
 ranchmen, volunteer experiments with grasses, 1898, 40.
 the best roads, 1894, 501.
 bird biographies by J. A. Allen, 1899, 261.
 Bulletins as a means of education, 1897, 280.
 distribution by Congressmen, 1896, 39.
 first issue and purpose, 1897, 214.
 free distribution, 1897, 207.
 from Office of Experiment Stations, 1897, 140.
 list, 1894, 587.
 need of additional appropriation, 1898, 58.

Farmers' Bulletins, notes, 1899, 676.

on appropriations, 1897, 215.

on abandoned farms, note, 1899, 60.

popular résumés of experiment station work, 1898, 48.

publication by Belgian Government, 1896, 369.

remarks by Secretary on publication, 1899, 43.

of Secretary on usefulness and numbers, 1900, 70.

Secretary's statement as to usefulness, 1898, 10.

series from Office of Experiment Stations, note, 1899, 34.

subjects and purpose, 1897, 205.

claims to water rights, 1899, 596.

condition of American, remarks of Secretary, 1896, 48, 49.

cooperation in grass and forage-plant investigations, 1899, 30.

development of general agencies for education, 1899, 181.

education, study, etc., 1897, 282, 283.

enrollment in New York College of Agriculture, 1897, 284.

experiments of experiment stations in cooperation, 1900, 58.

families, dietary studies, 1898, 444.

growing of seeds by contract, 1899, 560.

growth of competition, 1898, 583.

information on principles of animal nutrition, 1899, 232.

institute, education of farmer, 1897, 280.

managers, officers, committees, etc., 1898, 610.

institutes as part of university work in Wisconsin, 1898, 78.

courses of instruction in Belgium, 1896, 367.

development, 1899, 170.

importance in agriculture, 1899, 187.

methods of work, 1897, 281.

notes on method of conducting, 1899, 171.

officials, 1900, 643.

in charge, 1899, 687.

participation of experiment stations, 1899, 541.

lecture courses in Belgium, 1896, 367.

lumbering in Southern Appalachians, notes, 1900, 361, 367.

lumbermen, and others, practical assistance in forestry, 1899, 302.

market, enlargement by improved methods of keeping products, 1899, 328.

methods of protecting woodlands, 1899, 423, 424.

National Congress, officers, 1898, 627; 1899, 717; 1900, 671.

need of adjustment of water rights in irrigated regions, 1898, 53.

note on practical assistance in handling forest lands, 1898, 45.

response to efforts for technical courses in agriculture, 1899, 169.

notes on assistance in forestry investigations, 1899, 22.

opinions as to rural free delivery, 1900, 523-526.

plan and object of wood-lot agreement of Division of Forestry, 1898, 300.

present conditions and prospects of education, 1899, 189.

principal beef market, 1894, 9.

provision for reports from experiment stations, 1899, 520.

purchase of feeding stuff, 1897, 421.

reading courses, inauguration and extension, 1899, 179.

methods, purposes, and officials, 1899, 717.

with libraries, 1899, 508.

Register, agricultural magazine, edited by Edmund Ruffin, 1895, 500.

relation to Department of Agriculture, 1897, 9.

seeds, suggestions for home growing, 1896, 215.

suggestion of cooperative storage houses for fruit, 1900, 573.

permanent libraries, 1899, 511.

value of beet-sugar industry, 1898, 220.

wood lots, note on relation to taxes, 1898, 185.

world's markets, 1897, 12.

young, special courses to meet needs, 1899, 186.

Farming an aid to settlers and natives in Alaska, 1898, 523.

and stock raising, Alaskan experiment, 1897, 569.

books in New York Society library, 1899, 496.

(See also Libraries, agricultural.)

diversified, cause of Mormon prosperity, 1899, 593.

feature of irrigation, 1899, 610.

economic, result of use of fertilizers, 1897, 597.

- Farming, importance of diversified crops, 1895, 310.
 good seed, 1897, 95.
 influence of different systems on humus of the soil, 1895, 140.
 intensive, importance of irrigation, 1895, 130.
 relation of soil moisture, 1897, 132.
 perfumery in the United States, article by Edward S. Steele, 1898, 377-398.
 Porto Rican, future, 1898, 512.
 truck, definition and general observations, 1900, 437. (*See Truck farming.*)
- Farmington, Conn., Forestry Club, steam spraying against insects, 1896, 78.
- Farms, abandoned, discussion by Secretary, 1899, 60.
 acreage, increase and decrease, 1897, 578.
 and farmers, some English, notes, article by George William Hill, 1898, 583-589.
 farming in the United States, remarks on the future, 1895, 64.
 average value per acre of products, 1897, 591.
 discussion of size, 1897, 586.
 for growing seed, establishment, 1899, 557.
 seed growing, number and acreage in 1890, 1899, 560.
 in United States, growth, 1897, 577.
 number and acreage, size, machinery, products, etc., statistics, 1899, 323, 324, 325.
 relations of forests, article, 1895, 333.
- Farrallones, collection of birds' eggs, 1899, 271.
- Fat as ingredient of feeding stuffs, 1897, 422.
 influence upon yield of cheese, 1895, 469.
 per cent in different varieties of cheese, 1895, 456.
 range in various feeding stuffs, 1897, 423.
 test for milk, remarks on invention of machine for making, 1899, 395.
- Fats, use in the manufacture of oleomargarine, 1895, 446.
- Fauvel, M. A., opinion as to origin of bean weevil, 1898, 240.
- Feather sedge (*Andropogon saccharoides*), distribution and importance, 1900, 589.
- Feathers, birds, remarks on use, 1899, 272.
- Federal meat inspection, 1894, 67.
- Feed, advantages of use of cowpea hay, 1896, 291.
 digestibility of corn stover, 1896, 354.
 for poultry, note on sunflower, 1900, 133.
 mixed, uncertainty of quality on market, 1897, 426.
 value of cowpeas compared with clover and alfalfa, 1896, 295.
- Feeding and fertilizing contents of alfalfa, 1897, 495.
 beet pulp in the United States, 1898, 217.
 best methods with corn stover, 1896, 359.
 cattle, beet-sugar residues, article by G. L. Spencer, 1898, 213-220.
 experiments, merits of rations, 1897, 489.
 with beet pulp, 1898, 215.
 of animals, chemical researches, 1899, 232.
 on English farms, notes, 1898, 585, 587, 588.
 preparation of corn stover, 1896, 357.
 standards, notes and tables, 1895, 563.
 Wolff's, 1894, 563; 1895, 564; 1896, 609.
 stuff control, desirability, 1897, 427.
 stuffs, American, average composition, 1895, 560.
 and farm products, fertilizing constituents: 1894, 565; 1895, 566; 1896, 611.
 arguments for control, 1897, 422.
 composition, 1897, 425.
 desirable legislation, 1897, 428.
 digestibility, 1894, 562; table of digestible ingredients, 1896, 608.
 digestible food ingredients, 1895, 562.
 for animals, composition, 1894, 558.
 table of composition, rations, 1896, 605.
 needs and requirements of control, article by E. W. Allen, 1897, 421.
 the dairy herd, 1894, 314.
 value and use of millets, 1898, 287.
 of corn stover (fodder), article by J. B. Lindsay, 1896, 353.
 several leguminous crops, 1897, 493-504.
- Fees for public-land entries, 1898, 350, 351.
- Feldspar, effect of weathering, 1898, 495.
 relation to potash and soil formation, 1896, 108.

- Felling of trees, points of neglect and consequent damage, 1900, 367.
- Felsites, qualities for road building, 1900, 355.
- Feltia subgothica* (cutworm), note, 1898, 257.
- Fence posts, timbers best suited, 1900, 148.
 rows, use for tree planting, 1896, 326.
 wattle, use in arresting sands, 1898, 406.
- Fences and buildings, farm, table of values, 1897, 580.
- Fennel, culture and use for perfumery, 1898, 393.
 seed oil, price per pound, 1895, 204.
- Fermentation and curing of tobacco, statement of Secretary, 1898, 43.
 early views of value in fertilization, 1899, 218.
 of cider, Downing's method, 1898, 314.
 tobacco, note, 1900, 35, 48.
 wine, control by chemicals, 1900, 556.
 relations of micro-organisms, list of investigators, 1899, 250.
 views of Sir Humphry Davy on relation to plant nutrition, 1899, 210.
- Ferments, fertilizing of the soil, 1895, 80.
 inimical to agriculture, 1895, 83.
 nitrifying, of the soil, 1895, 73.
 of the soil, determination of the activity, 1895, 96.
 diagram showing nitrification, 1895, 99.
 preparation of pure cultures, 1895, 100.
 relation of different crops, 1895, 95.
 humus, 1895, 95.
 pathogenic, in the soil, 1895, 84.
 soil, important in agriculture, article by H. W. Wiley, 1895, 69-102.
- Fernald, H. T., observation on damage to tobacco-plant bed by slugs, 1898, 144.
- FERNOW, B. E., article on "Forestry for farmers," 1894, 461-500.
 "Relation of forests to farms," 1895, 333-340.
 review of work of Division of Forestry, 1897, 143-160.
 succession as chief of Division of Forestry, 1899, 301.
- Ferrel, William, first analytical description of motions of the air, 1899, 75.
- Ferrets, stoats, and weasels, introduction into New Zealand against rabbits, 1898, 96.
- Ferruginous roughleg hawk, notes, 1894, 219.
- Fertility of soil, cause of variation in wild plants, 1896, 94.
 decline by loss of humus, 1895, 132.
 efforts of Edmund Ruffin to increase, 1895, 496.
 how increased by marl, 1895, 499.
 importance of nitrification, 1895, 133.
 relation of humus, article, 1895, 131-142.
 restoration, 1897, 686-689.
- Fertilization as affecting disease, 1894, 199.
 cross, effect in selection for improvement of plants, 1898, 367.
 pollination as means, 1896, 210.
 effect on orange insects, 1894, 201.
 methods in production of seed, 1896, 209.
 of flowers of Smyrna fig, use of caprifig, 1900, 81.
 pear orchard, 1900, 378.
 soil as affecting the orange, 1894, 193.
 prevention of root rot, 1896, 251.
 study, 1899, 743.
- Fertilizer, best kinds of potash, 1896, 126.
 control, subject of early work at experiment stations, 1899, 338.
 deposits, relation to chemistry, 1897, 78.
 from casein, 1897, 522.
 skim milk, 1897, 520.
 function of potash, 1896, 107.
 manufacture, relation of chemistry, 1899, 257.
 proportion of lime with kainite, 1896, 131.
 tests, need of records, 1897, 303.
 time for plowing in cowpeas, 1896, 291.
 use of sewage, 1895, 84.
 value of stable manure from cowpea hay, 1896, 290.
- Fertilizers, action of cowpeas in gathering nitrogen, 1896, 289.
 analyses of various kinds, 1895, 570; 1896, 615; 1897, 687.
 and manures, early knowledge, 1899, 206-213.
 cereal and leguminous straw as sources of potash, 1896, 123.

- Fertilizers, commercial, work of experiment stations, 1899, 544.
 development of manufacture and use, 1899, 327.
 effect of poor drainage, 1896, 127.
 potash on other materials, 1896, 133.
 on orange in health; fertilizers for oranges, 1894, 195.
 excessive use cause of sterility, 1896, 100.
 experiments for cowpeas, 1896, 295.
 for millets, 1898, 283.
 pineapples, 1895, 279.
 formula for potash, 1896, 125.
 influence on tobacco, 1894, 145.
 liberal use on citrus nursery, 1896, 476.
 list and composition, 1894, 571.
 mineral phosphates, 1894, 177.
 needs and methods of use, 1897, 301.
 note on growing importance, 1897, 606.
 phosphatic, cost to farmer, 1894, 180.
 potash, for oranges, 1894, 197.
 remarks on early use; development of use, 1899, 336, 337.
 results of use as affecting economic farming, 1897, 597.
 rules for application, 1894, 191.
 soils requiring potash, 1896, 125.
 summary of conclusions as to use of potash, 1896, 134.
 table comparing cost and profit in raising cotton, 1897, 599.
 test of soil to determine need of potash, 1896, 116.
- Fertilizing constituents of cotton, 1895, 569.
 feeding stuffs and farm products, 1894, 565; 1895, 566;
 1896, 611.
 ferments of the soil, 1895, 80.
 materials, study of application, 1897, 79.
 value of leguminous crops, 1897, 490.
 street sweepings, 1897, 37.
 orange for growth, 1894, 193.
 planting and cultivating date palms, discussion, 1900, 472.
 value of guano, note, 1899, 274.
 millets, 1898, 289.
- Fescue, creeping, notes, 1895, 328, 330.
 grasses, varieties and uses, 1899, 357.
 meadow, seed, notes; yield, 1898, 488.
 seed, notes on sheep's; notes on red, 1898, 489.
 sheep's, and various-leaved, number of seeds per pound, amount to sow, etc.,
 1894, 569.
- Fescues, distribution and value, note, 1900, 594.
- Festuca heterophylla*, *F. ovina*, *F. pratensis*, and *F. rubra*, number of seeds per pound,
 amount to sow, etc., 1894, 569.
 pratensis and *ovina*, notes on seed, 1898, 488, 489.
 rubra (creeping fescue), note, 1895, 328.
- Fever in Hawaiian lowlands, note, 1898, 568.
 malarial, use of eucalyptus products, 1897, 192.
 milk, and abortion, 1894, 307.
 Texas, dipping as a cure, 1898, 28. (*See also* Texas fever.)
 ticks of cattle, note on remedy, 1898, 12.
- Fiber Investigation, Office, statement of work, 1894, 61.
 investigations, note on work, 1897, 33.
 Office, comments on operations by Secretary, 1895, 56.
 exhibit at Atlanta Exposition, 1895, 516.
 organization and duties, 1894, 61, 525; 1895, 56, 525; 1896,
 557; 1897, 621.
 review of work, by Chas. Richards Dodge, 1897, 224-235.
 publications, 1895, 622; 1896, 648; 1897, 632; 1898, 606; 1899,
 683.
 summary of work, 1897, 235.
 manufactures, possibilities, 1897, 224.
 of ramie, extracting, 1894, 455.
 plants of world, useful, note on catalogue, 1898, 234.
- Fibers, imports. (*See* Imports.)
 that might be produced in United States, 1897, 228.

- Ficus pedunculata* and *F. brevifolia* (rubber or wild fig trees), injury by freezes in Florida in 1894-1895, 1895, 172.
- Fidia viticida* (grapevine fidia), description and distribution, 1895, 391.
- Field crops, ordinary, amount of water necessary, 1900, 511.
 practical tests by experiment stations, 1899, 538.
 laterals in irrigation, laying out, 1900, 505.
 operations of experiment stations, cooperation with farmers, 1900, 59.
 peas, Canadian, article, 1895, 223-232.
 products, note on kinds to be exported, 1899, 234.
 Victoria, note on introduction, 1900, 139.
 sparrow, food, 1898, 228.
 tests of seeds, work of seed dealers, 1897, 441.
- Fig, changes resultant upon presence of *Blastophaga*, 1900, 90, 97, 103.
 industry in California, note on probable usefulness of insect, 1899, 155.
 introduction of *blastophaga*, 1899.
 Smvrna, culture in United States, article by L. O. Howard, 1900, 79-106.
 industry in United States, outlook, 1900, 104.
 note on establishment of industry, 1900, 138.
 packing and grading, 1900, 95.
 problem of introduction of insect for fertilizing, 1898, 31.
- Figs and dates, notes on introduction, 1900, 32.
 experiments, 1897, 51.
 from England, testing adaptability to our climates and soils, 1895, 47.
 introduction of varieties, 1897, 190.
 notes on varieties, 1897, 317.
 product of Roeding orchard in 1900, 1900, 94.
 study of relations of generations of *Blastophagas* to generations of caprifigs, 1900, 96-99.
- Filberts and walnuts, notes on imports, 1897, 337.
- "Filled" cheese, general remarks, 1895, 467.
 making; laws, 1897, 520.
- Filler leaf (tobacco), note on proposed improvement, 1899, 27.
 tobacco. (See Cigar.)
- Finch, house, California, destruction of figs, 1900, 93.
 note on reputation among California fruit growers, 1898, 107.
 lark, food, 1898, 228.
 purple, and house finch, food habits and relation to orchard, 1900, 302.
- Fir Red, notes on injury by *Polyporus pinicola*, 1900, 209.
- Fire and smoke as a protection against frost, 1895, 155.
 damage to timber in Southern Appalachian region, 1900, 363, 364.
 danger to forests; States with patrol, 1899, 415.
 in forests, summary of laws for suppression, 1899, 300.
- Fires, forest and prairie, cause of loss of humus, 1895, 135.
 discussion, 1898, 189-192.
 note, 1899, 24.
 study by Division of Forestry, 1898, 191; 1899, 303.
 in forests, discussion, 1899, 423.
 use in protecting citrus trees from freezing, 1895, 166.
- Firewood, conservative cuttings of woodland, 1899, 418, 419.
 production at Biltmore, N. C., 1900, 366.
- Firs and pines, notes on study, 1900, 53.
 description and suggestions on growing, 1897, 650.
- Fish and game, protection in connection with forestry, 1899, 305.
 as food of young birds, note, 1900, 411.
 manure, remarks by Davy, 1899, 211.
 early use as manure for corn, 1899, 209.
 in Alaska, note, 1898, 524.
 investigation of chemical composition and food value, 1899, 405.
 oil, use against insects, 1897, 639.
 as insecticide, 1898, 661.
- FISHER, A. K., article on "Hawks and owls as related to the farmer," 1894, 215-232.
- Fisheries, value of exports, 1894, 65.
- Fishhawk, or osprey, food of nestlings, 1900, 430.
- Fistulina hepatica* (edible toad stool), description, 1897, 466.
- Fitch Asa, study of injurious insects of New York, 1899, 138.
- Fitzherbert, A., first English treatise on husbandry, 1899, 158.
- Flat-headed appletree borer, 1894, remedies, 1894, 572.

- Flax and ramie, comparison, 1894, 444.
 cereals, cowpeas, cotton, notes on diseases, 1900, 731.
 crop of certain countries, 1895-1899, 780.
 culture in United States, article by Chas. Richards Dodge, 1897, 471-486.
 results of practical experience, 1897, 483.
 experiments in Puget Sound region, 1897, 33.
 forage plants, and cereals in Alaska, notes, 1898, 518.
 growing, conditions in United States and Europe, 1897, 476.
 in Alaska, experiment, 1897, 485.
 hemp, and ramie, beginning of inquiry, 1897, 225.
 high value of Puget Sound fiber, 1897, 484.
 history and present use, 1895, 188.
 imports, 1891-1895, 1895, 549. (*See also Imports.*)
 industry, localities of success in United States, 1897, 484.
 proposed form of cooperation, 1897, 481.
 investigations, first work in Department, 1897, 229.
 need of machine for pulling, 1897, 480.
 New Zealand, note on distribution, 1897, 199.
 notes on reports of Office of Fiber Investigations, 1897, 234.
 potash, withdrawal from soil in cultivation, 1896, 114.
 quantity of seed per acre, 1897, 478.
 soils, sowing, and cultivation, 1895, 189.
 value of product per acre, 1897, 229.
- Flaxseed, effect of different temperatures on germination, 1895, 178.
 exported from the United States in 1894, 1895, 186.
 false, use in producing oil similar to rapeseed oil, 1895, 202.
 for producing oil, 1895, 188.
 statistics of world's flax crop and United States flaxseed prices, 1900, 816.
 uses of its products, 1895, 189.
 whence comes the supply, 1895, 189.
 wholesale prices in leading cities, 1899, 810; 1900, 817.
- Flea-beetle, grapevine, 1895, 395.
 striped, remedies, 1894, 573.
 tobacco, description; injuries to tobacco; remedies, 1898, 123-128.
- Fleece production, breeds of goats of value, 1898, 432.
- Fleming, statement as to rabies in Vienna, 1900, 245.
- Fletcher, Isaac, chairman House committee, 1839, 1897, 209.
 James, note on test of peas, 1898, 236.
- Flicker, destruction of ants and other insects; feeding of young, 1900, 294, 427.
- Flies, house, and mosquitoes, note on carrying of disease, 1899, 15.
 syrphus and lace-winged, scale-insect enemies, 1894, 253.
- Flood and river service of Weather Bureau, 1897, 65.
- Flooding as a means of protection from frosts, 1895, 156.
 method of irrigation in California, 1895, 482.
- Floods, forecasting, 1894, 120.
 of the Mississippi, relation to forests, 1897, 148.
 saving by means of Weather Bureau warnings, 1898, 22, 38.
- Floras, similarity of Asian and American, 1894, 441.
- Floriculture, note on first important book, 1899, 582.
 position in Belgian agricultural schools, 1898, 366.
- Florida and Texas, note on production of Cuban tobacco, 1900, 166.
 beggar-weed, 1899, 624.
 character of public lands, 1898, 347.
 characteristic species of scale insects, 1900, 250.
 cultivation of pineapples, 1897, 328.
 exclusion from date-growing climate by heavy rainfall, 1900, 468.
 experiments for improvement of tobacco, 1897, 419.
 in growing sisal hemp, 1897, 230.
 extermination of gulls and terns by use of eggs, 1899, 270.
 freezes of 1894-1895, and what they teach, article by Herbert J. Webber, 1895, 159-174.
 1886 and 1894-1895, minimum temperatures, 1895, 160.
 injury to tobacco by bud-worms; remedies against bud-worms, 1898, 134.
 lemon production on commercial scale, 1897, 322.
 losses by disease of citrus fruits, 1897, 103.
 method of training young citrus trees for tops, 1896, 484.
 note on commercial production of bananas, 1897, 326.

- Florida, note on failure of navel orange to fruit, 1897, 189.
 growth of rubber plants, 1898, 14.
 hybrids of citrus fruits, 1897, 397.
 operations of leaf-miners on tobacco, 1898, 139.
 orange groves, use of velvet beans, 1897, 504.
 perfumery farm at San Mateo, 1898, 386.
 phosphates, four types, 1894, 178.
 note on introduction, 1899, 338.
 pineapple industry, development, 1895, 269, 270.
 practice of crown grafting with citrus fruits, 1896, 486.
 probable success of tuberose for perfume, 1898, 394.
 public lands, 1898, 326, 330.
 rose farming, possibility, 1898, 382.
 saving from loss by freezing by means of Weather Bureau forecasts, 1898, 21.
 scale insects, 1900, 267, 277, 280, 281.
 shipment of tomatoes to England, note, 1900, 579.
 soils, report, 1897, 44.
 southern, growing of coffee, 1897, 197.
 table on cost of fertilizers and profit on cotton, 1897, 599.
 truck soils, 1894, 136.
 weather warnings for fruit industry, 1897, 30.
- Florida-grown Cuban and Sumatra tobaccos, at Paris Exposition, 1900, 49, 162.
 notes, 1899, 437, 438.
- Florists, American, Society, effect of organization, 1899, 584.
 establishments, commercial statistics, 1899, 586.
 retail, increase, 1899, 585.
- Flour, American wheat, sales to Denmark, 1899, 46.
 and meal, study of composition, 1897, 36.
 beetles, notes, 1894, 288.
 slender horned, notes, 1894, 288, 289.
 early recognition of difference from hard and soft wheat, 1899, 216.
 freight rate by years, 1897, 596.
 grain, and meal, analysis, remarks on problems, 1899, 235.
 moth, Mediterranean, notes, 1894, 283.
 wheat, exports, 1894, 541; 1895, 544; 1896, 586; 1897, 745; 1898, 714; 1899, 831;
 1900, 849.
- Flours, typical American, composition, 1897, 682-684.
 wheat, rice, etc., average composition, 1897, 678.
- Flower buds, relation to luxuriance of growth of plant, 1898, 156.
 clusters of date palm, descriptions and treatment, 1900, 476.
 growing, commercial, in the United States, methods and statistics, 1895, 247.
 seed, growing, 1899, 560.
- Flowering shrubs, pruning, 1898, 160.
- Flowers and bouquets, formality in fashion, 1899, 582.
 ornamental plants, improvement, 1899, 488.
 cut, and winter vegetables, awakening of demand, 1899, 582.
 development of varieties, 1899, 569.
 improvements in color, etc., by selection of very distinct parents, 1899, 474.
 organs of seed production, 1896, 208.
 relation of plant breeding to trade, 1899, 466.
- FLOYD, MARCUS L., and MILTON WHITNEY, article on "Growth of the tobacco industry," 1899, 429-440.
 article on "The world's exhibit of leaf tobacco at Paris Exposition of 1900," 1900, 157-166.
- Flumes, forms and cost for irrigation, 1896, 191.
- Fluorids, use as food preservative, 1900, 559.
- Fluted scale (*Icerya purchasi*), distribution, description, and control, 1900, 280, 281.
 remedies, 1894, 573.
- Fly agaric, frequency of occurrence and destructiveness, 1897, 457.
- Flycatchers, food of nestlings, 1900, 426.
- Flying foxes, or fruit bats, danger of importation from Australia, 1898, 90, 97.
- Fodder and hay plants, money value, 1895, 45. (*See also* Stover.)
 green, composition and fertilizing value of different kinds, 1895, 560.
 method of comparison of different kinds, 1896, 354.
 plants, study by Chemist, note, 1899, 240.
- Fodders, use in rations (*see also* Forage plants), 1897, 489.
- Folding and Document room. (*See* Document and Folding room.)

- Foliage, loss of water by evaporation, 1894, 170.
- (ornamental) plant, *Perilla arguta*, note on introduction, 1900, 142.
- Food, actual nutriment and cost, 1894, 359.
 - adulteration, discussion of work of Division of Chemistry, 1900, 23.
 - study by Division of Chemistry, 1899, 244.
 - work of Association of Official Agricultural Chemists, note, 1899, 231.
- and diet, discussion, 1894, 357.
 - nutrition of man, scope of investigations, 1899, 404.
 - sugar-beet investigations by chemists, note, 1898, 30.
- best for agricultural plants, 1897, 294.
- blackbird, grains and fruits, 1894, 242.
- consumption, average, for people of different occupations, 1898, 450.
 - differences with occupation, 1898, 443.
- digestibility, 1894, 367.
- economy, definition, 1894, 358.
 - errors, 1894, 381.
 - need of research, 1894, 387.
- fitting to needs of body, 1894, 367.
- for cattle, orange, 1898, 385.
 - young blackbirds, 1894, 245.
- habits for various occupations, note, 1897, 142.
 - of birds and mammals, studies, 1897, 121.
 - of prey, 1894, 217.
 - crows and blackbirds, 1897, 347, 348, 350.
- importance of avoiding waste, 1898, 449.
- ingredients, digestible, in feeding stuffs, 1895, 562.
- materials and conditions of growth of trees, 1894, 461.
 - classification by composition, 1894, 364.
 - cost of nutriment, 1894, 366.
 - study of digestibility, 1899, 408.
 - understanding from dietary studies, 1898, 451.
- methods of service to the [human] body, 1900, 340.
- needlessly expensive, 1894, 382.
- note on consideration of nutritive value in purchase, 1898, 448.
- notes on cost, 1898, 446, 447.
- nutritive ingredients, 1894, 361.
 - and their uses in the body, 1895, 573.
 - value, work assigned, 1894, 116.
- of birds, note on study, 1899, 260.
 - seed, 1894, 245.
 - crow blackbirds, 1894, 223.
 - family, observation in dietary studies, 1898, 441.
 - nestling birds, article by Sylvester D. Judd, 1900, 411-436.
 - people in business and professional life, 1894, 372.
 - plants, statement by Davy, 1899, 205.
 - the poor, 1894, 385.
- plants of English walnut scale, 1894, 265.
 - new peach scale, 1894, 266.
 - oyster shell bark louse, 1894, 256.
 - peach lecanium, 1894, 271.
 - San Jose scale, 1894, 268.
 - scurfy bark louse, 1894, 260.
 - the greedy scale, 1894, 262.
- preservatives, commercial, composition, 1900, 555.
 - list of analyses, 1900, 742-750.
 - purpose of use, 1900, 552.
 - use and abuse, article by W. D. Bigelow, 1900, 551-560.
- products, American, average composition; table showing various kinds, 1895, 573.
 - average composition, 1897, 677-679.
 - foreign, notes on examination, 1900, 25.
 - note on work of Division of Chemistry, 1899, 14.
 - value of weather forecasts, 1894, 122.
- some effects of different combinations on dietary, 1898, 447.
- staples for Porto Rico, 1898, 512.
- study of functions, 1899, 408.

- Food supply, early practices in maintaining, 1899, 328.
 influence upon production of plant varieties, 1896, 91.
 of plants, relation to variation, 1899, 469.
 use of millets in Asia, 1898, 277.
 India, 1898, 280.
 value of potatoes, article by C. F. Langworthy, 1900, 337-348.
 waste, 1894, 384.
 work, and wages in the United States, 1894, 376.
- Foods, cheap and dear, 1894, 364.
 evolution of varieties from farm products, 1899, 327.
 for man, discussion and tables, 1897, 676-682.
 human, composition and adulteration, 1894, 547; 1897, 81.
 notes and tables, 1895, 573.
 nutritive value and economy, remarks by Secretary, 1895, 37.
 discussion in Patent Office report, 1899, 232.
 study in Division of Chemistry, 1897, 36.
 table on comparative nutritive value, by Davy, 1899, 216.
- Foot-and-mouth disease, note on visitation of America, 1897, 250.
 rot of citrus fruit trees, inarching as a remedy, 1896, 488.
 prevention by selection of stocks, 1896, 476.
- Forage conditions, early, remarks, 1899, 613.
 in Southwest, study, 1897, 43.
 of the prairie region, article, 1895, 309.
 crop, note on value of everlasting radish, 1900, 140.
 crops, leguminous, article by Jared G. Smith, 1897, 487-508.
 note on importance of selection of plants, 1897, 490.
 millet, reputed injuriousness, 1898, 289.
 of broom-corn millets, yield and qualities, 1898, 283.
 pioneer attempts at preserving in silos, 1899, 616.
 plant and grass investigations, 1899, 349.
 investigations in Northwest, 1897, 165.
 note on new kind in Texas, 1900, 143.
 plants and grasses, collection of seeds and study, remarks, 1900, 32, 38, 40.
 native, note on investigations, 1899, 31.
 number seeds in pound, 1894, 569.
 millets, composition, 1898, 655.
 cereals and flax in Alaska, notes, 1898, 518.
 experiments, 1897, 202.
 for alkali soils, conclusions and recommendations, 1898, 549.
 cultivation on alkali soils, article by Jared G. Smith, 1898, 535-550.
 improvement of pastures, 1899, 29.
 inception and growth of improvement, 1897, 91.
 native, discussion, 1897, 505.
 of the United States, general remarks, 1895, 314.
 notes on introduction of several kinds, 1900, 139.
 of Southwest, inquiries, 1897, 170.
 problem in cattle ranges, 1897, 42.
 testing in grass gardens, 1895, 308.
 varieties and advantages, 1899, 358.
 weight and cost of seed in four mixtures, 1894, 571.
 problems of South, investigations, 1897, 172.
 resources, investigations for improvement, 1898, 40.
 succulent, best crops, 1899, 620-626.
 for farm and dairy, article by Thomas A. Williams, 1899, 613-626.
 present methods of production, 1899, 614.
 use of cowpeas, 1896, 290.
 value of seaside blue grass, 1898, 416.
 so-called weeds, 1897, 167.
- Forbes, S. A., note on work for economic entomology, 1899, 141.
 work in economic ornithology, remarks, 1899, 262.
- Forbush, E. H., method of attracting titmice to orchard, note, 1900, 296.
- Forcing houses, appearance of large establishments, 1899, 583.
 of vegetables under glass, statistics, 1899, 586.
 plants, art among the Romans, 1890, 575.
- Forecast and weather map, daily, discussion, 1899, 88.
 limit of practicability for high temperatures, 1900, 336.
 service and storm warnings, 1897, 60-65.
 of Weather Bureau, remarks of Secretary on value, 1900, 14, 15.

- Forecast, weather, Washington, note on distribution, 1899, 85.
 Forecaster, facts used in deductions, 1897, 74.
 Forecasting by Weather Bureau, lack of stations, 1897, 68.
 early work in United States service, 1899, 81.
 weather, note on usefulness of kites, 1898, 207.
 principles, 1897, 72.
 Forecasts and warnings, number from Weather Bureau, 1897, 27.
 improvement, 1894, 117.
 interests affected and benefited, value, 1894, 121.
 of Weather Bureau, 1894, 29.
 note on organization, 1890, 72.
 remarks on distribution, 1899, 89.
 publication in newspapers, 1899, 90.
 relation of information collected by use of kites, 1898, 83.
 verification for Weather Bureau, 1896, 39.
 weather, amplification, article by Alfred S. Henry, 1900, 107-114.
 comments by Secretary, 1895, 32.
 for Great Lakes, work of I. A. Lapham, 1899, 77.
 Foreign birds, discussion of introduction, 1899, 287-290.
 buyers, effect of false brands, 1900, 23.
 cattle, protection against contagion, 1899, 691.
 law, 1898, 613.
 countries, need of Department agent, 1897, 11.
 demand, influence on breeding of live stock, 1899, 631.
 food products, examination, 1900, 25.
 fruit trade, statistics, 1897, 312.
 goods, note on necessity of inspection, 1898, 13.
 insect pests, study, 1897, 38.
 institutions of learning, Department publications, 1897, 207.
 legations, agricultural attachés, 1897, 275.
 market for American corn, 1897, 277.
 markets, demand for information from section, 1896, 37.
 need of special agents abroad, 1897, 274.
 Section, publications, 1898, 606; 1899, 683; 1900, 693.
 review of work, by Frank H. Hitchcock, 1897, 270-278.
 work and duties, 1896, 555; 1897, 40, 270-279, 620; 1898, 9, 36, 594; 1899, 11, 45-48, 668; 1900, 13, 67-69, 634.
 support of American workingmen, 1896, 54.
 monetary units, United States equivalents, 1897, 672.
 plants, notes on introduction by Congressional seed distribution, 1900, 29.
 of importance in this country, 1897, 199.
 requirements, importance of study, 1897, 272.
 seeds and plants, note on work for introduction, 1898, 36.
 statistics, qualifying facts, 1897, 266.
 tobacco trade, requirements, discussion, 1899, 433.
 Forest at Oakland, N. J., object of management, 1898, 306.
 biology, need of knowledge in forestry, 1897, 148.
 cover, note on relation to flow of stream, 1900, 52; saving of soil, 1897, 146.
 destruction, early efforts for prevention, 1899, 293.
 taxes as a cause, 1898, 184.
 details of cutting plan, 1898, 307.
 development of trees, 1894, 473, 474.
 extension in the Middle West, article by William L. Hall, 1900, 145-156.
 fire legislation, review, 1899, 300.
 fires, cause of loss of humus, 1895, 135.
 damage and causes in Southern Appalachians, 1900, 363.
 discussion, 1898, 189-192.
 study by Division of Forestry, 1898, 191.
 grazing, general conclusions, 1898, 187.
 growth in Alaska, relation to farming, 1897, 572.
 harm done by bad system of lumbering in Southern Appalachians, 1900, 362.
 how it waters the farm, 1895, 337.
 to plant, 1894, 480.
 influence on temperature, 1895, 338.
 influences, effect on climate and water supply, 1897, 145.
 land, Government, introduction of principles of forestry, 1900, 51.
 management, problem in connection with rubber production, 1899, 62.
 under systematic working plans, 1899, 422.

- Forest, note on rate of growth of crop, 1897, 151.
 notes on causes of wounds which give lodgment to fungi, 1900, 201.
 planting, discussion, 1899, 425.
 experiments, statement by Secretary, 1898, 44.
 in the sand hills, 1895, 355.
 propitiousness of present time (1900), 1900, 147.
 preservation in Southern Appalachians, relation to rivers and health, 1900, 368.
 problems, notes, article by Gifford Pinchot, 1898, 181-192.
 products, value of exports, 1894, 65.
 regions, need of protection from sheep in some cases, 1898, 188.
 reserves, controversy, 1899, 295.
 note on control and survey, 1898, 183.
 investigation of sheep grazing, 1898, 54.
 table showing names, locations, areas etc., 1899, 755-756.
 resources, notes on extent, control, and use, 1897, 144.
 supplying the farm with useful material, 1895, 339.
 technology and timber physics, note, 1897, 153.
 trees, early planting on waste lands in Massachusetts, 1889, 417.
 fungous diseases, article by Hermann von Schrenk, 1900, 199-210.
 note on study of diseases, 1900, 35.
 protection against freezing of citrus fruits, 1895, 164.
 types in Southern Appalachians, discussion, 1900, 359.
 watchmen for fire, 1899, 424, 425.
 wealth of Cuba, note, 1898, 671.
 work and forestry associations and schools, 1900, 655.
 conduct under Government, 1898, 183.
 national, administration, 1899, 297.
 practical, participation of Division of Forestry, 1899, 301.
 States having offices, list, 1898, 620; 1899, 702; 1900, 655.
- Forester, expert, with rangers, employment at Biltmore, note, 1899, 422.
 notes on duties, 1898, 182.
 proposed study of abandoned farms, 1899, 60.
- Foresters, increase of force in Division of Forestry, 1899, 24.
- Forestless regions, tree planting, 1897, 155.
- Forestry associations, foundation and work, 1899, 304.
 list, 1898, 620; 1899, 702; 1900, 655.
 change in chief of Division, 1898, 44.
 discussion of meaning of term, 1898, 181, 182.
 Division, cooperation with private owners in forest management, 1899, 298.
 exhibit at Atlanta Exposition, 1895, 519.
 field work, remarks, 1899, 302.
 form of wood-lot agreement with farmers, 1898, 299.
 general plan of cooperation with forest owners, 1898, 186.
 results of cooperative plan of timber planting, 1900, 153, 155.
 organization of systematic forestry, 1899, 423.
 publications, 1895, 621; 1896, 648; 1897, 632; 1898, 606; 1899, 683; 1900, 693.
 propaganda of rational forestry, 1897, 159.
 proposal for experimental planting of trees in plain, 1898, 188.
 scope of work, 1898, 183.
 special investigations, 1899, 383.
 system of lumbering devised for lands in Adirondacks, 1899, 420.
 work for farmer, review by B. E. Fernow, 1897, 143-160; review by Gifford Pinchot, 1898, 297-308.
 organization, and duties, 1894, 44, 524; 1895, 38, 525; 1896, 557; 1897, 47, 620; 1898, 10, 44-46, 595; 1899, 10, 21-24, 669; 1900, 12, 50-53, 635.
- errors in transplanting trees, 1897, 158.
 for farmers, 1894, 461.
 general remarks on tree borers (ambrosia beetles), 1896, 421.
 horticulture and landscape gardening books in library, 1897, 221.
 instruction, New York College and other agencies, 1899, 305.
 lack of knowledge among lumbermen, 1898, 185.
 notes on special investigations, 1899, 24.
 tree planting, 1896, 330.
 one hundred most important trees, 1897, 644-669.

- Forestry, practical, in the Southern Appalachians, article by Overton W. Price, 1900, 357-368.
 practice by private owners, article by Henry S. Graves, 1899, 415-428.
 private, discussion, 1899, 298.
 progress in 1899, 1899, 752-754.
 United States, article by Gifford Pinchot, 1899, 293-306.
 relation to protection of fish and game, 1899, 305.
 schools, list, 1899, 703.
 student assistants, note, 1899, 21.
 suggestions for practical and profitable methods in Southern lumbering, 1900, 361.
 work of Forester for improvement of methods, 1898, 10.
 working plans, notes, 1899, 22.
- Forests, careful thinning in conservative management, instances, 1899, 418.
 early efforts of private owners for management, 1899, 416.
 grazing of sheep and other domestic animals, 1898, 187.
 how they protect the farm, 1895, 338.
 in St. Helena, destruction by goats, 1898, 89.
 natural reproduction, note, 1899, 427.
 of arid region as source of wealth, 1899, 600.
 Hawaiian Islands, 1898, 572.
 relation to farms, article by B. E. Fernow, 1895, 333-340.
 floods of Mississippi, 1897, 148.
- Formaldehyde, action as deodorizer, 1896, 258.
 advantages as a disinfectant, 1896, 257.
 effect of gas on cattle, 1896, 261.
 experiments with various solutions, 1896, 258.
 odor as objection to use, 1896, 261.
 percentage in air for disinfection, 1896, 262.
 solution for destroying smut, 1896, 259.
 use as food preservative, 1900, 558.
- Formalin, experiments against various disease germs, 1896, 260.
 (formaldehyde), use as disinfectant, 1896, 257.
 solution, use in sweet potato disease, 1899, 18.
- Fort Worth, cattle convention and dipping of cattle, 1898, 28, 457.
 experiments against Texas fever ticks, 1898, 456, 460.
- Fox grass, characteristics and uses, 1895, 329.
 chemical composition, 1895, 332.
- Foxtail, meadow, notes on use and on seed, 1898, 492.
 number of seeds per pound, amount to sow, etc., 1894, 570.
 millets, discussion, 1898, 268-276.
 list of varieties, 1898, 270.
- Frames, cloth, use in protecting young plants from frosts, 1895, 153.
- France, agricultural education, article by C. B. Smith, 1900, 115-130.
 educational system, summary of factors, 1900, 129.
 amount of sodium nitrate used for manurial purposes, 1895, 90.
 center of perfumery industry, 1898, 381.
 choice of permanent technical committees in ministry of agriculture, 1896, 553.
 councils in connection with ministry of agriculture, 1896, 552.
 distribution of prizes through agricultural societies, 1896, 546.
 exhibit and awards on butter and cheese at Paris Exposition of 1900, 1900, 609, 620.
 exports of butter, cheese, and eggs to United Kingdom, 1895, 29, 30.
 importance of cheese making as industry, 1900, 623.
 methods of control of agriculture, 1896, 546.
 grape training, 1896, 506.
 note on shipment of butter from United States, 1898, 15.
 notes on commission for study of beet-pulp feeding, 1898, 215.
 numbers of dairy stock; creameries and production of butter, 1900, 610, 611.
 pork imported from the United States in 1895, 1895, 10.
 systems of training grapevines at Medoc and Bordeaux, 1896, 526.
 views of veterinarians as to contagion of glanders, 1899, 97.
- Francis, Dr. M., first suggestion of oil bath for Texas fever ticks, 1898, 455.
- Franklin, influence on Philadelphia Library, 1899, 496.
 note on observations of storms, 1899, 73.
- Fratercula corniculata* (horned puffin), food of nestlings, 1900, 433.

- Freezes and frosts as affecting cultivated plants, article by B. T. Galloway, 1895, 143-158.
 of 1894-1895 in Florida, and what they teach, article by Herbert J. Webber, 1895, 159-174.
- Freezing, effect upon roads, note, 1900, 352.
 • injuries to trees, 1896, 245.
 mixture for refrigerator car, note, 1900, 574.
 of peach trees, need of pruning, 1898, 165.
 preservation of meat, 1900, 551.
- Freight and passenger rates, 1898, 723-728; 1899, 660-663. (*See also* Transportation.)
 rates, average in cents per ton per mile for several leading railroads and for all railroads, 1899, 848.
 per ton per mile, 1898, 727.
 delay in reduction, 1899, 658.
 early, discussion, 1899, 647.
 grain, etc., 1894, 546; 1895, 553; 1896, 598; 1897, 755; 1898, 723; 1899, 841; 1900, 836-839.
 in recent years, 1899, 653.
 live stock and dressed meats, Chicago to New York, 1895, 553; 1896, 598; 1897, 757; 1898, 725; 1899, 845; 1900, 838.
 of different railroad companies, 1899, 662.
 foreign countries, notes, 1899, 663.
 on leading crops, Western cities to Atlantic ports, 1896, 598.
 live stock and dressed meat, Chicago to New York, 1899, 845.
 farm produce, January 1, 1892-1896, 1895, 553.
 miscellaneous commodities, New York to Chicago by rail, 1899, 842-844.
 packed meats, Cincinnati to New York by rail, 1899, 846.
 wheat from New York to Liverpool, 1895, 553.
 tables showing changes, 1899, 660.
 United States and River Plate to Liverpool, 1896, 27.
 wheat, New York to Liverpool, 1896, 598.
 traffic, maximum grade of roads, 1900, 185.
- French "cadelle," notes, 1894, 290.
 colonists, care and culture of date palm, notes, 1900, 473.
 markets, familiarity of merchants with American cheese, 1900, 615.
 method of measuring traffic, remarks, 1900, 353.
 minister of agriculture, direction of study of anthrax, 1899, 115.
 war department, experimental investigation of glanders, 1899, 97.
- Fresh-water cord grass as soil binder, 1894, 436.
- Fresno, Cal., notes on experiments in growing figs, 1900, 80, 81, 82, 83.
- "Frit fly," manner of attack; danger of importation, 1897, 549.
- Frost, cause in fruit district of California, 1898, 81.
 conditions of deposit, 1897, 549.
 danger of disease to raspberries, 1898, 161.
 effect on flavor and composition of potato, 1900, 346.
 first and last killing, dates, 1897, 618.
 management of olives showing effect, 1896, 386.
 methods of prevention of injury, 1897, 62.
 note on date of danger at Alaskan points, 1897, 557.
 potash as a protection, 1896, 133.
 prevention by groves on hilltops, 1896, 324.
 relation to location of orchards and gardens, 1897, 63.
 warnings, method of reception and use, 1897, 65.
 note on value, 1899, 84.
- Frosts and freezes as affecting cultivated plants, article by B. T. Galloway, 1895, 143-158.
 danger to lawns, 1897, 364.
 general and heavy, under what conditions formed, 1895, 144.
 how they differ from freezes, 1895, 144.
 to foretell, 1895, 156.
 kinds and effects, 1895, 143.
 light and local, under what conditions found, 1895, 143, 144.
 observations on moisture of air to foretell, 1895, 149.
- Frozen meats, experiments leading to transportation from Australia, 1900, 567.
 handling in European markets, 1896, 26.
 in tropical countries, note, 1898, 577.

- Fruit and fruiting, quantity and age of date palm, 1900, 475.
 vegetable canning in the United States, statistics, 1895, 552.
 bark beetle, remedies, 1894, 573.
 bats, destructiveness in Australasia, 1898, 97.
 buds, encouragement of formation by pruning, 1898, 163.
 car, ventilated, notes on use, 1900, 442.
 catalogue, results of study to be included, 1898, 56.
 crop, processes for saving, 1898, 310.
 culture, growth by reason of keeping crop by refrigeration, 1900, 577.
 discussion of canning, 1898, 313; extracting of juice, 1898, 314.
 district of California, note on cause of frost, 1898, 81.
 eastern Asian and American, relationship, 1894, 437.
 effect of restriction of root growth, 1897, 194.
 exports and imports. (*See Exports.*)
 fallen, utilizing, 1898, 316.
 grower, birds of importance, discussion, 1900, 291.
 growers, note on losses from San Jose scale, 1899, 144.
 old-fashioned, preference in fertilizers for pear orchard, 1900, 380.
 Growers' Union, American, advantage in distribution, 1900, 450.
 growing in 1900, progress, 1900, 731.
 America, remarks on early attempts, 1899, 467.
 of pears for market, discussion, 1900, 369-396.
 progress in 1899, 1899, 748.
 importance of fig in Gulf and South Atlantic States, note, 1900, 79.
 improved quality by selection in breeding, 1898, 370.
 in commerce, remarks by Secretary, 1895, 47.
 industry, influence of refrigeration, article by William A. Taylor, 1900, 561-580.
 in Pacific Northwest, note, 1899, 20.
 losses from overproduction and lack of transportation, 1900, 562.
 substitution of domestic for foreign products, article by William A. Taylor, 1897, 305-344.
 injuries by great titmouse or kohlmeise, 1898, 105.
 insects in Mexico, other than orange worm, 1897, 546.
 juices, unfermented wine and fruit sirups, notes, 1898, 315.
 notes on cheapness, healthfulness, and keeping, 1897, 112.
 consumption and on extent of industry, 1897, 113.
 of pear tree, thinning, remarks, 1900, 387.
 on European markets, competition with United States, 1900, 579.
 origination of varieties, advice of Marshall P. Wilder, 1899, 473.
 rapid spoiling after refrigeration, note, 1900, 578.
 shade, and other trees, diseases, 1899, 750.
 shipments in cold storage on steamers, note, 1900, 576.
 small, culture for market, article by William A. Taylor, 1895, 283-294.
 spot of quince, treatment, 1894, 578.
 statistics of canning, 1896, 595. (*See also Statistics.*)
 storage, application of mechanical refrigeration, 1900, 568.
 transportation, establishment of first refrigerator car line, 1900, 575.
 treatment in evaporation, 1898, 311.
 tree, value of top and superfluity of long trunk, 1900, 387.
 trees and plants, suggestions as to study, 1897, 183.
 date palm as shelter, discussion, 1900, 474.
 effect of root diseases, 1897, 101.
 methods of pruning and reasons, 1895, 263.
 net profit of treatment of leaf blight, 1897, 109.
 note on distribution of varieties, 1898, 56.
 remedies for overbearing, 1895, 265.
 use by blue jay as food, 1896, 204.
 wild, planting as protection of cultivated varieties, note, 1900, 304.
 worm, Morelos orange, investigation, 1898, 31.
- Fruitfulness, effect of cultivation, 1896, 101.
 increase by change to higher latitude or altitude, 1896, 102.
 of orchards, influence of miscellaneous factors, 1898, 178.
- Fruiting of berries and currants, relation to pruning, 1898, 161.
 date palm, relation of humidity, 1900, 468.
 plants, relation to luxuriance of growth, 1898, 156.
 organs of fungi, variations, 1900, 205.
 shoots of grapevine, indication for pinching, 1898, 166.

- Fruits and fruit products, exports. (*See Exports.*)
 imports. (*See Imports.*)
 nuts, fertilizing constituents, 1895, 568.
 semitropical, production and imports, 1890-1895, 1895, 551.
 suggestions for improvements by hybridization, 1897, 419.
 Treasury statement as to imports and exports in 1821, 1897, 311.
 plants, increase of vigor by crossing, 1897, 414.
 vegetables, value of forecasts in raising, 1897, 62.
 as blackbird food, 1894, 242.
 California, in English markets, remarks by Secretary, 1895, 48.
 catalogue and cooperative work, note, 1900, 37.
 other work by Division of Pomology, 1897, 114.
 citrus, important insects, 1900, 262.
 deciduous, San Jose scale as most dangerous insect enemy, note, 1899, 143.
 differences of cross-pollinated and self-pollinated pears, 1898, 173, 174.
 difficulty of improvement, 1896, 298.
 direction for improvement of native varieties, 1896, 299.
 dried, discussion, 1897, 312-319.
 exotic, introduction, 1897, 308.
 fresh, and fruit products, discussion, 1897, 320-334.
 from eastern Asia and Europeo-Asian region, 1894, 442.
 in Hawaiian Islands, discussion, 1898, 571.
 public-land States, notes, 1898, 332, 333, 335, 336, 337, 338, 341, 342, 348.
 indigenous in Mississippi Valley and Lake region, 1897, 307.
 manner of domestication of native varieties, 1896, 298.
 miscellaneous, statistics of annual imports, 1897, 332-334.
 native, need of improvement of cultivated kinds, 1896, 299.
 more varieties, 1896, 301.
 note on origin of early varieties, 1899, 471.
 points of needed improvement, 1896, 302.
 review of improvements made, 1896, 297.
 necessity as element of development, 1896, 298.
 new, early, directions for producing, 1899, 472.
 northern, notes on diseases in 1898, 1898, 652.
 note on exhibit at Paris Exposition, 1899, 20.
 our native, improvement, article by L. H. Bailey, 1896, 297-304.
 overripe, shipment on special cars, note, 1900, 446.
 pomaceous, pollination, article by M. B. Waite, 1898, 167-180.
 proposals for preparation of maps of areas, 1897, 52.
 relation to diet and to nutrients, note, 1898, 446.
 rules for naming and exhibiting, 1900, 742.
 semitropical, production 1889; imports 1891-1896, 1896, 596.
 small, irrigation; deterioration in storage, 1900, 509, 569.
 Southern, notes on diseases in 1898, 1898, 652.
 statistics of production in California, 1897, 120.
 table of distances for planting, 1897, 689.
 tree, package for marketing, 1900, 52.
 undeveloped native species, 1896, 299.
 utilizing surplus, article by G. B. Brackett, 1898, 309-316.
 value of weather forecasts, 1894, 122.
Fuel value of food, 1897, 677.
 note on study, 1899, 409.
Fulmer, F. S., statement as to raising Angora goats, 1898, 434.
Fultz wheat, conclusions from investigations, 1897, 116.
Fumigation against insects, cost per tree, 1896, 229.
 methods of handling large tents, 1896, 229.
 length of time of application of gas, 1896, 228.
 time and method against insects, 1896, 227.
Functions of food in the body, study, 1899, 408.
Funds of experiment stations, remarks by Secretary, 1899, 32.
Fungi, cause of diseases of trees, 1896, 247.
 cultivation and use by ambrosia beetles, 1896, 423.
 definition and remarks, 1900, 199.
 destructive to trees, list, 1900, 206-208.
 difference in forms used by ambrosia beetles, 1896, 422.
 food of ambrosia beetle, 1896, 422.
 injuries to timber, 1900, 200, 202, 203, 204, 208.

- Fungi, lodge in dead bark of trees, 1896, 246.
 parasitism, articles by T. J. Burrill, note, 1899, 193.
 part in causing disease in plants, 1897, 101.
 relation to structural timber, 1900, 210.
 remarks on fruiting organs, 1900, 205.
 rules for distinguishing edible species, 1897, 470.
 knowing edible kinds, 1897, 455.
 some edible and poisonous, article by W. G. Farlow, 1897, 453-476.
 teeth-bearing, edible species, 1897, 467.
 tube-bearing, discussion, 1897, 465.
- Fungicidal treatment, success with grapes, 1899, 198.
- Fungicide, accidental discovery of Bordeaux mixture, 1899, 195.
- Fungicides, application by means of cyclone nozzle, 1899, 196.
 points in determination of use, 1897, 106.
 formulas, 1894, 577; 1895, 589; 1896, 625; 1897, 675.
 use of lime, salt, and sulphur wash in California, 1896, 234.
 potash salts, 1896, 134.
- Fungous diseases of forest trees, article by Hermann von Schrenk, 1900, 199-210.
 plants, list of methods of treatment, 1895, 587.
 treatment, formulas for fungicides, 1894, 574; 1896, 625.
 tree stems, treatment, 1896, 254.
 cause of pineapple blight, 1898, 652.
 diseases of plants, remarks and examples, 1897, 102.
 study by botanist, 1897, 93.
 treatment; formulas, 1897, 673-676.
 injuries to tobacco in connection with flea-beetle, 1898, 123, 124.
 potato rot, ravages and study, notes, 1899, 192.
 scab, on pear tree, use of Bordeaux mixture, 1900, 388.
- Fur seal, study of parasites, 1897, 26.
- Furze, wild, note on trial as forage plant, 1900, 139.
- Fusicladium pirinum* (fungus), cause of scab in pear, 1900, 387.

G.

- Galega officinalis* (rue), number of seeds per pound, amount to sow, etc., 1894, 570.
- Galeoscoptes carolinensis* (catbird), distribution and food habits, 1895, 406; 1900, 303, 416.
- Galeruca xanthomelæna* (elm leaf beetle), remedies, 1894, 573.
- Galerucella luteola* (imported elm-leaf beetle), shade-tree insect, 1895, 363.
- Galleta grass, value in desert region, 1900, 595.
- Gallinaceous birds, food of nestlings, 1900, 431.
- GALLOWAY, B. T., and A. F. WOODS, article on "Diseases of shade and ornamental trees," 1896, 237-254.
 "Water as a factor in the growth of plants," 1894, 165-176.
 article on "Frosts and freezes as affecting cultivated plants," 1895, 143-174.
 "Progress in the treatment of plant diseases in the United States," 1899, 191-200.
 "Progress of commercial growing of plants under glass, 1899, 575-590.
 "The health of plants in greenhouses," 1895, 247-256.
 review of work of Division of Physiology and Pathology, 1897, 99-111.
 experiments with violet cuttings, 1898, 373.
- Galton, remark on selection in plant breeding, 1898, 358.
- Game and birds, officials and organizations concerned with protection, 1899, 710-717; 1900, 664-671.
 fish, protection, connection with forestry, 1899, 305.
 birds, discussion of use of weed seeds as food, 1898, 231.
 introduction, 1899, 289.
 Lacey Act for restoration and protection, 1900, 46.
- laws, criticism, 1899, 283.
 discussion, 1899, 282-287.
 efforts to secure uniformity, 1899, 283.
 remarks on nonexport clauses, 1899, 286.
- usefulness of birds, remarks, 1899, 268-270.

- Garbanzos. (*See* Chick peas.)
- Garden and greenhouse irrigation, 1895, 233-256.
 calendars, early, for distribution to seed dealers, remarks, 1899, 554.
 City, Kans., forage experiment station, 1897, 92.
 crops, study by Department, 1897, 111.
 culture, use of phosphates, 1896, 136.
 fruits, experiments on Department grounds, 1897, 202.
 irrigation, cost and profits, 1895, 243.
 methods of applying the water, 1895, 238.
 novelties, place in early seed catalogues, 1899, 554.
 plants, crossing of varieties, 1896, 213.
 seeds, early references, 1899, 549.
 subirrigation, remarks, 1895, 239.
 subtropical, note on testing hybrid fruits, 1899, 19.
 varieties, problem of fixation, 1899, 562.
- Gardeners, florists, etc., in United States, 1897, 261.
 Monthly, early recommendation of kerosene as insecticide, 1899, 150.
- Gardening, market, relation to truck farming, notes, 1900, 437.
- Gardens and Grounds, Division, publications, 1897, 632; 1898, 607; 1899, 683; 1900, 694.
 review of work, by William Saunders, 1897, 180-204.
 work, organization, and duties, 1894, 53, 525; 1895, 60, 525; 1896, 557; 1897, 43, 621; 1898, 14, 595; 1899, 11, 669; 12, 42-44, 635.
- experimental, distribution of plants, 1898, 14.
 introduction of Japanese persimmon, 1897, 187.
 work with pears, 1897, 184.
- grass, article by F. Lamson-Scribner, 1895, 301-308.
 in connection with schools in France, note, 1900, 126.
- "Gardiner Lyceum," remarks on work as agricultural school, 1899, 163.
- Garlic, distribution by farm machinery, 1896, 274.
- Garman, H., use of arsenical mixtures on tobacco plant, 1898, 121.
 Professor, note on damage to tobacco by twelve-spotted *Diabrotica*, 1898, 144.
 report on destructiveness of tobacco worms, 1898, 130.
- Gas process, insect control in California, 1896, 227.
 relation of use to ladybirds in fighting scale insects, 1896, 224.
- Gascony, note on reclamation of sandy waste, 1898, 405.
- Gases in soil, danger to trees, 1896, 242.
- Gasoline motor for spraying, advantages, 1896, 85.
- Gassing. (*See* Fumigation.)
 trees, details of method with tables of proportions of chemicals, 1900, 254, 257.
- Gasteromycetes, puff balls, poisonous fungi, notes, 1897, 468.
- Gauge of railroads, economics, 1899, 651.
- Gelechia cerealella* (Angoumois grain moth), notes, 1894, 281-282.
 remedies, 1894, 572.
- solanella* (leaf miner), description; injuries to tobacco; remedies, 1898, 137-140.
- Gelsemium sempervirens* (yellow jasmine), use for perfumery, 1898, 396.
- Geneva, N. Y., study of plant diseases at experiment station, 1899, 193.
 "tester" for seeds, note, 1899, 571.
- Genista scoparia* (Scotch broom), use in binding sands, 1898, 411.
- Gennadius, Professor, observation of "white fly" of tobacco, 1898, 143.
- Geographic distribution of fauna and flora, study, 1897, 118.
 divisions of United States under Eleventh Census, 1897, 577.
- Geological Survey, U. S., cooperation in study of forest fires, 1898, 192.
 of Division of Forestry, 1900, 52.
 part in management of forest reserves, 1899, 297.
 relation to forestry, 1898, 183.
- GEORGESON, C. C., article on "Agricultural experiments in Alaska," 1898, 515-524.
 remarks by Secretary on work in Alaska, 1898, 50.
 on agricultural possibilities in central Alaska, 1900, 60.
- Georgia, available pasturage for goats, 1898, 426.
 note on premium flock of Angora goats, 1898, 435.
 table on fertilizers for cotton, 1897, 599.
 varieties of cereals for cultivation, 1897, 116.
- Geranium, rose, species for supply, 1898, 383.
 viscosissimum, forage plant, differences from larkspur, 1900, 316.

- Gerlach, published accounts of anthrax, 1899, 116.
- Germ theory, application to anthrax, 1899, 117.
establishment in regard to anthrax, 1899, 119.
- German cockroach, remedies, 1894, 173.
inspection of American pork, study, 1897, 26.
millet, description, introduction, and use, 1898, 272.
orchard grass seed, adulteration, 1898, 487.
- Germany, amount of sodium nitrate used for manurial purposes, 1895, 90.
exhibits of butter and cheese at Paris Exposition, and awards, 1900, 612, 617.
exports of bacon to United Kingdom, 1893-1895, 1895, 17.
butter and eggs to United Kingdom, 1893-1895, 1895, 30.
manufacture and supply of bacteria for nitrogen, 1897, 299.
milk sugar-making, 1897, 526.
mutton exported to the United Kingdom, 1893-1895, 1895, 25.
muzzling of dogs, report of Consul-General Mason, 1900, 244.
note on shipment of butter, 1898, 15.
notes on adulteration of feeding stuffs, 1897, 426.
pork imported from United States in 1895, 1895, 10.
prohibition of American pork, 1897, 247.
remarks on agricultural schools, 1899, 225.
value of rape seed in 1882, 1895, 200.
- Germinating chamber in seed testing, 1897, 443.
- Germination of seed, study of chemical changes, 1899, 743.
tests for seed at Department, 1899, 574.
- Germinative power, results of experiment with light and heavy seed, 1896, 321.
- Gestation periods in domestic animals, 1900, 740.
- Gideon, Peter M., origination of Wealthy apple, 1899, 478.
- Gila River, areas adapted to date culture, 1900, 488.
- Ginger, note on introduction into United States, 1897, 200.
- Ginning quality, point in improvement of cotton by selection, 1898, 360.
- Ginseng, note on increase of price, 1899, 64.
remarks by Secretary on prices and availability as crop, 1898, 56.
- Girls, training in domestic science, 1897, 17.
- Githagism, chronic poisoning from cockle, note, 1900, 307.
- Gizzards of birds, differences, notes, 1900, 412.
- Glaisher, weather maps, note, 1899, 77.
- Glanders and farcy, discussion, 1899, 96.
bacillus, note, 1900, 240.
danger from difficulty of diagnosis, 1899, 101.
discovery of disease in man, 1899, 98.
distribution of mallein for testing horses, 1900, 19.
early spread in French army, 1899, 97.
efforts to control, 1899, 99.
experiments as to contagiousness, 1899, 97.
justifiableness of inoculations, 1899, 101.
mallein test, discussion, 1899, 102.
second great problem, 1899, 100.
- Glasgow, market favorable to American cattle, 1896, 28.
- Glaucidium gnoma* (pigmy owl), food of nestlings, 1900, 431.
- Glover, Townend, note on work for economic entomology, 1899, 138.
suggestion for destroying moths of tobacco worm, 1898, 131.
- Glucose manufacture, remarks, 1899, 254.
substitution for honey, 1899, 244.
- Glumes of grass seed, notes, 1898, 474.
- Gluten, early recognition of nutritive value, 1899, 214, 216.
feed," range of chemical constituents, 1897, 428.
in wheat, effect of latitude on content 1899, 244.
meal, variation in constituents, 1897, 422.
per cent in ordinary and in Russian varieties of wheat, 1896, 493.
- Glyceria maritima* (sea spear grass), note, 1895, 328.
- Gnat, buffalo, remedies, 1894, 573.
- Gnawing insects, arsenical poisons as standard remedy, note, 1899, 148.
- Goat breeders' association, ages and periods important in breeding, 1900, 652, 740.
keeping, objects, 1898, 431.
products, discussion of variety and value, 1898, 423.
raising for profit, conclusions, 1898, 435.

- Goat's rue for Rocky Mountain region, 1897, 504.
 official, number of seeds per pound, amount to sow, etc., 1894, 570.
- Goats and sheep, danger of injury by running wild, 1898, 89.
 breeds valuable for dairy products, 1898, 432.
 cheese from milk at Paris Exposition of 1900, 1900, 617, 623.
 discussion of available pasturage in United States, 1898, 425.
 improvement of pasturage, 1898, 436.
 keeping for profit, article by Almont Barnes, 1898, 421-438.
 number in the world, discussion; table, 1898, 428, 429, 430.
 shortness of domestic supply, 1898, 422.
- Goe, J. S., statement as to Angora goats, 1898, 435.
- Goessman, C. A., note on work in agricultural chemistry, 1899, 228.
- Goffart, M. August, description of method of ensilage, 1899, 617.
- Gold coins of United States, notes, 1898, 676.
 discoveries, effect on agriculture, 1899, 335.
 mining in Philippine Islands, 1898, 673.
- Golden Dent corn, adaptation to South, 1897, 116.
 eagle, notes, 1894, 227.
 robin (Baltimore oriole), distribution and food habits, 1895, 426.
 Wonder millet, description, yield of seed, character of forage, etc., 1898, 273.
- Golden-rod, sweet, note on use for perfume, 1898, 396.
- Goldfinch, eating of weed seed, 1898, 229.
- Goldfinches, destruction of dandelions, 1898, 225.
- Good Hope, Cape, shipments of fruit, 1900, 579.
 roads association, national, 1900, 664.
 interest of cities and towns, 1897, 177.
 movement in States, progress, 1899, 378.
 note on growth of public sentiment, 1898, 39.
 people, interest in sample road construction, 1900, 54.
- Goodell, H. H., management of Massachusetts Agricultural College Library, 1899, 499.
- Goose grass, injury to lawns, 1897, 366.
 Hawaiian, note on destruction by mongoose, 1898, 95.
- Gooseberries and currants, uses and methods of pruning, 1898, 161.
 improvement, remarks, 1899, 483.
- Gooseberry and currant culture, varieties commonly grown for market, 1895, 294.
- Gophers, pocket, study, 1894, 43.
- Gorrie, Dr. John, relation to invention of cold-air machine, note, 1900, 566.
- Goshawk as blackbird food, 1894, 242.
 notes, 1894, 231.
- Gossard, H. A., work against fluted scale in Florida, 1900, 281.
- Gould, J. S., nutrition investigations, 1899, 404.
- Grackle, purple, notes, 1894, 233.
 rusty, notes on range and habits, 1897, 351.
- Grade lines, directions for running, 1900, 496, 499.
 of ditches, in irrigation, necessity, 1900, 495, 503.
 roads the key to correct methods, 1900, 184.
- Graders for road making, note, 1899, 42.
- Grades, different, velocities and discharges of ditches, 1900, 494.
 for roads, mathematical discussion of widths, 1900, 192.
 in irrigating, means for establishing, 1896, 191.
 of ditches, relation to fall of stream, 1900, 493.
 roads, discussion, 1898, 318.
- Grading of streets, cause of "stag head," or "top dry," 1896, 239.
 relation of health of trees to deep filling, 1896, 242.
- Graduate study and original research in agriculture, 1899, 182.
- Grafting, crown, method of restoring frozen orange groves, 1895, 167, 169.
 methods with olive and orange, 1896, 376, 485-488.
 root, experiment with apple trees, 1895, 47.
 wax, etc., used in pruning, recipes, 1895, 268.
 preparation and use with citrus fruits, 1896, 479.
- Grain and cattle, note on English market, 1898, 334.
 attacks upon fields by blackbirds, 1897, 348, 349.
 average freight rates, St. Louis to New Orleans, 1899, 841; 1900, 836.
 beetle remedies, 1894, 291.
 saw-toothed, notes, 1894, 287.
 square-necked, notes, 1894, 290.

- Grain, birds that cause injury, 1897, 345-354.
 - composition of different kinds, 1895, 561.
 - cotton, and vegetable diseases in 1898, 1898, 652.
 - crop, method of irrigation, 1900, 508.
 - destruction by birds in Mississippi Valley, 1897, 350.
 - eating birds, more important, 1897, 346.
 - effect of drought, note, 1900, 510.
 - elevators, note on relation to distribution of weed seed, 1898, 195.
 - fertilizing constituents, 1895, 567.
 - foods for dairy herd, 1894, 315.
 - freight rates, Chicago to New York, 1894, 546; 1895, 553; 1896, 598; 1897, 755-758; 1898, 723-727; 1899, 841-848; 1900, 836-839.
 - fresh, prevention of infestation by insects, 1894, 292.
 - growing in Alaska, note, 1900, 61.
 - insects, nature and extent of damage, 1894, 278.
 - origin, introduction and habits; enemies, 1894, 277, 278.
 - of grass seed, notes, 1898, 476.
 - portion of blue jay's food, 1896, 203.
 - rusts, notes on loss, kinds, etc., 1898, 262.
 - small, danger of importation of injurious insects, 1897, 549.
 - smuts, causes and prevention, 1894, 409.
 - notes on destructiveness, etc., 1898, 261.
 - statistics. (*See* Statistics of crops.)
 - stored, injurious insects, 1894, 277.
 - note on remedy for insects, 1899, 152.
 - triers for seed testing, notes, 1894, 406.
 - weevils, remedies, 1894, 573.
- Grains, experimentation in northern latitudes, 1899, 35.
 - flour and meal, analysis, remarks on problems, 1899, 235.
 - from foreign countries, note on introduction, 1899, 56.
- Gram, green, note on introduction as forage plant, 1900, 143.
- Gramma, black and other kinds, usefulness, 1900, 590.
 - grass and buffalo grass, analysis, 1895, 317.
 - or mesquite grasses, as forage plants, 1895, 315.
 - white and blue, characteristics, 1895, 316.
- Grammas, value in desert and prairie regions, 1900, 589, 595.
- Granary weevil, notes, 1894, 279.
- Grand Island, Nebr., feeding of beet pulp, 1898, 218.
- Grange libraries, remarks, 1899, 511.
 - national and State, officers, 1898, 625; 1899, 717; 1900, 672.
 - work of Wm. Saunders as one of founders, 1900, 625, 629.
- Granite bowlders, good results in building roads at Nantucket, 1900, 352.
 - qualities for road building, 1900, 355.
- Grants of desert lands to States, 1898, 351.
- Grape, black rot and downy mildew, treatment, 1894, 577.
 - cane-borer, description and methods of injury, 1895, 393.
 - remedies, 1895, 394.
 - culture and wine making, second era in California, 1898, 552.
 - in California, present condition, article by George Husmann, 1898, 551-562.
 - European, note on investigation in Southeastern States, 1898, 57.
 - fruit, pomelo, or shaddock, usefulness for perfumery, 1898, 385.
 - propagation by seed, 1896, 472.
 - use as stock in orange propagation, 1896, 476.
 - fungus in shriveled fruits in winter, 1897, 107.
 - growers, position in California, 1898, 557.
 - growing, effect of study of plant diseases, 1899, 197.
 - hybrid of summer species with fox grapes, 1897, 390.
 - industry in California, conclusion as to present condition, 1898, 561.
 - depression, 1898, 554.
 - insects, cost of damage, 1895, 385.
 - leaf-folder, description, methods of injury and distribution, 1895, 398.
 - remedies, 1895, 399.
 - hopper, description and methods of injury, 1895, 400.
 - life history and remedies, 1895, 402.
 - native, failure to produce good wine, 1897, 308.
 - note on diseases, 1899, 194.

- Grape, notes on improvement by hybridization, 1899, 473.
 results of hybridization, 1897, 402.
 objects, time, and methods of pruning, 1898, 165.
 principal insect enemies, article by C. L. Marlatt, 1895, 385-404.
 rot, hybridization as means of escape, 1897, 416, 417.
 sea, injuries by freezes in Florida in 1894-1895, 1895, 172.
 thrips, remedy, 1897, 186.
- Grape-berry moth, description, methods of injury and distribution, 1895, 402.
 introduction into the United States, 1895, 403.
 remedies, 1895, 404.
- Grapes, adaptation to soil and climate, 1896, 303.
 advantages and disadvantages of pendent training, 1896, 528.
 American, early observations of wine, 1897, 305.
 and other fruits, diseases in 1900, 1900, 730.
 wines, prices in California, 1898, 558.
 balance of root and top in pruning, 1896, 504.
 best varieties for raisins, table, and market, 1898, 560.
 "blocking" and "stripping" in pruning, 1896, 511.
 definitions of terms regarding training, 1896, 500.
 development of native varieties, 1896, 297.
 discovery of Cape, Catawba, and other native varieties, 1896, 300.
 distances for setting vines, 1896, 509.
 distribution of buds in pruning, 1896, 503.
 effect on vine of overproduction, 1896, 504.
 small fruitage, 1896, 504.
 excess of buds left in pruning, 1896, 504.
 experiments by Department, 1897, 111.
 for fine wines, best varieties, 1898, 559.
 formation of "head" of vine, 1896, 514.
 fresh, imports, 1897, 328, 329.
 fundamental principles of training, 1896, 503.
 horizontal systems, 1896, 518.
 improvements in nineteenth century, 1899, 475.
 influence of locality on quality, 1898, 561.
 injuries by chlorides in fertilizers, 1896, 129.
 instruments for pruning, note, 1896, 502.
 investigation of coulure, 1898, 265.
 manner and time of renewal of vines by pruning, 1896, 539.
 native, need of minor varieties of Concords, etc., 1896, 302.
 varieties, importance of improvement, 1896, 303.
 notes on early cultivation on James River, 1897, 307.
 of Europe, note on experiments, 1899, 20.
 parts of vine to be removed by pruning, 1896, 502.
 pendent systems of training, 1896, 527.
 position of bearing wood left in pruning, 1896, 504.
 fruit on trellis, 1896, 510.
 pruning and training, article by E. G. Lodeman, 1896, 499.
 for successive years, 1896, 508, 509, 511, 512.
 purposes and methods of training, 1896, 503.
 of pruning, 1896, 501.
 question of time of renewal of stem, 1896, 542.
 ripened fruit not obtained from unripe shoots, 1898, 166.
 shipment under refrigeration, note 1, 1900, 578.
 stocks resistant to Phylloxera, 1898, 557.
 systems of training, 1896, 505, 539.
 the, disease of horses, note, 1899, 104.
 time and importance of tying, 1896, 1896, 514.
 in growth of vine for construction of trellis, 1896, 509.
 training under glass, 1896, 527.
 upon posts of American varieties, 1896, 507.
 treatment of vine for disease, cost, 1897, 108.
 upright systems of training, 1896, 505.
 variety suited to limestone soil, 1896, 303.
 various methods of renewal of canes, 1896, 540-542.
 wall and greenhouse systems of training, 1896, 531.
 work in experimental gardens and grounds, 1897, 185.
- Grapevine fidia, description and distribution, 1895, 391.
 life history, 1895, 392.
 remedies and preventives, 1895, 393.

- Grapevine flea beetle, description and methods of injury, 1895, 395.
 remedies, 1895, 396.
 leaf-hopper and phylloxera, remedies, 1894, 573.
 phylloxera, description, 1895, 386.
 life history and habits, 1895, 387.
 means of dispersion, remedies, and preventives, 1895, 389.
 suitable for alkali soils, 1895, 122.
- Grass and clover seeds, remarks, 1899, 564.
 beach, or marram, description; use in binding sands, 1898, 409.
 collection, extent in Department, 1898, 41.
 remarks by Secretary, 1899, 30.
 distinction of species by awn, 1898, 475.
 garden, beginning at Department, 1897, 198.
 establishment on Department grounds, 1899, 348.
 forage plants, 1895, 308.
 scheme of laying out, 1895, 305.
- gardens, article by F. Lamson-Scribner, 1895, 301.
 at Knoxville, Tenn., and Washington, D. C., 1897, 42.
 note, 1900, 40.
 notes on experiments, 1898, 39.
 of Department of Agriculture, 1897, 163.
 uses and value, 1895, 303.
- remarks on climate and methods of growing, 1896, 632.
- seed, amount and cost per acre, 1897, 670.
 and its impurities, article by Gilbert H. Hicks, 1898, 473-494.
 classes of impurities, 1898, 480.
 mirror box for tests, 1897, 444.
 points in distinction of species, 1898, 474.
 standards of weight, 1898, 478.
 suggestion for inspection of imports, 1898, 482.
 table showing number, weight, cost, and amount to sow, 1896, 632.
 typical cases of poor stock, 1898, 480.
 variation of weight with cleaning; vitality, 1898, 478.
 weight and cost of four mixtures, 1896, 634.
 as related to quality, 1898, 476.
- seeds, descriptions, 1898, 482, 494.
 germination test, 1894, 400.
- soils of Atlantic coast, notes, 1897, 127.
- stations, experimental, establishment and varieties of grasses, 1895, 44.
- upright or sea lyme, description; use in binding sands, 1898, 412.
- varieties, note on introduction, 141, 144.
- Grasses and cattle, relative importance, 1895, 324.
 forage crops in Alaska, notes, 60, 61.
 plants, attention of Department, 1897, 11.
 native, collection of seeds and study, 1900, 32, 38, 40.
 note on investigations, 1899, 31.
 notes on valuable species, 1899, 355.
 number seeds in pound, 1894, 569.
 varieties for trial in Rocky Mountain region, 1897, 167.
 ranges, need of care, 1900, 598.
- as sand and soil binders, 1894, 429.
 remarks by Secretary, 1899, 30.
- efforts of Department in Asia, 1897, 12.
- examples of impurities of seed, 1897, 94.
- fertilization by the agency of the wind, 1896, 211.
- for binding sands on fresh water, discussion, 1898, 417.
- from dry region of Old World, 1897, 43.
- grass gardens an aid in comparison of species, 1895, 301.
- in mountain meadows and deer parks, discussion, 1900, 585-586.
- Southern States and treeless regions, discussion, 1900, 587-593.
- introduced, most useful variety for dry prairies, 1897, 168.
- list of private publications, 1899, 350.
 soil and sand binders, 1894, 580.
- millets and other forage plants, composition, 1898, 655.
- native, adaptation to soil and climate, 1898, 409.
 remarks on investigations, 1899, 28.
- new and native, remarks, 1895, 307.
- note on study by Division of Agrostology, 1898, 11.

- Grasses, notes on introduction through experimental gardens, 1897, 198.
 of salt marshes, article by F. Lamson-Scribner, 1895, 325-332.
 wooded regions, discussion, 1900, 582.
 perennial more nutritious than annual, 1895, 323.
 sand binding, article by F. Lamson-Scribner, 1898, 405-420.
 discussion, 1897, 173.
 distribution, 1894, 423.
 selection for use in lawn making, 1897, 357.
 Southwestern, excellence, 1897, 171.
 tame and clovers, where they will grow, 1895, 321.
 true, subject of science of agrostology, 1899, 347.
 use for binding twine; tests, 1897, 162.
 in improving worn-out pastures, 1899, 29.
 varieties for use in lawn making, 1897, 360.
- Grasshopper, blister beetle as check, 1898, 250.
 sparrow, food, 1898, 228.
 Western. (*See* Locust.)
- Grasshoppers, estimate of number eaten in one month by meadow lark, 1895, 422.
 note on introduction of fungous disease, 1900, 27.
- Gravel, mechanical separation, 1894, 134, 135, 136, 147, 148, 152.
 roads, discussion of construction, 1898, 321.
- GRAVES, HENRY S., article on "The practice of forestry by private owners," 1899, 415-428.
 report on plan for wood lot at Oakland, N. J., 1898, 301.
- Gravimetric method of determination of water in soils, remarks, 1900, 402.
- Gray bush, species in Australia and use by stock, 1898, 544.
 saltbush, notes, 1898, 541.
- Grazing and forage problems in the South, 1899, 352.
 area of Texas, divisions and characteristic plants, 1900, 588-593.
 free, effect on cattle and sheep industry, 1899, 630.
 lands of arid region as source of wealth, 1899, 600.
 of sheep in forests, general conclusions, 1898, 187.
 regions of the world, location, 1900, 581.
 unfitness of lands by reason of frequent burning over, 1900, 364.
- Grease, or sore heels, relation to cowpox, 1899, 103.
- Greasewood and saltbushes, analyses, 1898, 538.
 winter fat, discussion as forage plants for alkali lands, 1898, 547.
 description, absorption of soda salts, etc., 1898, 548.
 growth in alkali soil, 1898, 535.
- Great Britain, cattle and meat trade, remarks by Secretary, 1896, 24.
 differences of veterinarians as to contagion of pleuro-pneumonia, 1899, 110.
 eradication of rabies and hydrophobia by muzzling of dogs, 1900, 245, 246.
 farm conditions (*see also* English), 1898, 583-589.
 horned owl, notes, 1894, 229.
 horses imported from United States, 1893-1895, number and average price, 1895, 26.
 import of meat, 1896, 29.
 importation of cattle for breeding, 1899, 632.
 imports from Ireland of cattle, sheep, and hogs in 1895, 1895, 23.
 of sheep from Canada and Argentina, 1895, 25.
 inspection of animals in the United States, 1894, 79.
 cattle from United States, 1898, 25.
 loss to America of cheese market, 1899, 52.
 meat and cattle trade; price of live cattle in 1895, 1895, 18.
 number of sheep in 1895, 1895, 25.
 prohibition of imports of live stock (*see also* England), 1897, 238.
- Great horned owl, protection of orchard by destruction of rabbits, 1900, 300.
- Great Plains, alternation of rains and drought, plenty and want, 1896, 168.
 climatic conditions from Montana to Texas, 1898, 167.
 common errors as to aridity and fertility, 1896, 167, 169.
 irrigation, article by Frederick H. Newell, 1896, 167.
- GREATHOUSE, CHARLES H., article on "Development of agricultural libraries," 1899, 491-512.
 article on "Free delivery of rural mails," 1900, 513-528.
- Greece, award for cheese exhibit at Paris Exposition of 1900, 1900, 617.

- Greedy scale, notes, 1894, 261.
- Greeley, Colo., irrigation, 1899, 593.
- Greely, General, administration of Weather Service, 1899, 79.
- Green bait, preparation and use, 1898, 659.
 manure, means of maintaining humus of the soil, 1895, 139.
 use of Canadian field peas, 1895, 232.
 manures, use in pear orchard, 1900, 379.
 manuring, use of leguminous plants, 1897, 299.
- Greenhouse and garden irrigation, article by L. R. Taft, 1895, 233-246. (*See also*
 Conservatories.)
 construction, improvement, 1899, 578.
 first in America, remarks, 1899, 576.
 insects, use of hydrocyanic-acid gas, 1899, 151.
 irrigation, general remarks, 1895, 244.
 plants and pests, notes, 1900, 276, 283.
 health, article by B. T. Galloway, 1895, 247-256.
 notes on treatment, 1898, 264.
 subirrigation experiments, 1895, 245.
 work, epoch marked by introduction of hot water, remarks, 1899, 579.
- Greenhouses, improvement in roofs by William Saunders, note, 1900, 626.
 improvements in construction, 1899, 578-581.
 iron, introduction and improvements, 1899, 584.
- Greens (pot herbs), names and descriptions of plants commonly used, 1895, 205-214.
 prevalent use in Europe, 1895, 206.
- Griffith, Dr. B. W., study of male black scale, 1900, 274.
- Grosbeaks, food of nestlings, 1900, 418.
- Ground nut (peanut), use in production of oil, 1895, 196.
 plum, growth, range, and value, 1897, 505.
- Grouse, pinnated. (*See* Prairie hen.)
- Growing plants under glass, commercial, progress, article by B. T. Galloway, 1899, 575-590.
- Grub, white (June beetle), remedies, 1894, 574.
- Grus mexicana* (crane), food of nestling, 1900, 433.
- Gruyère cheese at French Exposition, 1900, description, 1900, 619.
 production in Franche-Comte, note, 1900, 620.
- Guano, discussion of supplies and use, 1899, 274-278.
 early use as fertilizer; remark by Davy, 1899, 212.
 growth of use, 1899, 337.
 islands, appertaining to United States, list, 1899, 276.
 remarks on the genesis, 1895, 86.
 table of amounts from islands appertaining to United States, 1899, 278.
- Guava, study in department of diseases, 1897, 110.
- Guavas, injury by freezes in Florida in 1894-1895, 1895, 171.
- Guinea corn. (*See* Sorghums.)
 pig, inoculation with tuberculin, 1898, 113.
 note on discovery of usefulness in inoculation, 1899, 101.
- Guizotia oleifera* (niger seed), production of oil from seed, 1895, 196.
- Gulf coast, grasses suitable for lawns, 1897, 361.
 note on field investigations of forage resources, 1898, 40.
- region, species of scale insects, 1900, 250.
- States, east, note on hurricanes, 1898, 530.
 of Texas, investigation of grasses, etc., 1897, 173.
 note on introduction of tea culture, 1899, 58.
 occurrence of tornadoes, 1898, 533.
 rain with cyclones, 1898, 529.
- Gull, laughing, note on use of eggs, 1899, 270.
- Gullies, prevention by tree planting, 1896, 325.
- Gulls and terns, food of nestlings, 1900, 433.
 notes on destruction, 1899, 270.
- Gum arabic, note on introduction into United States, 1897, 199.
 exudation, danger of pruning plum and cherry trees, 1898, 163.
 sweet, range, uses, etc., 1897, 661.
- Gumbo-limbo, injury by freezes in Florida in 1894-1895, 1895, 173.
- Gypsum as fertilizer, note on early use, 1899, 207.
 use as preservative for manure, 1897, 688.
 on soils damaged by alkali containing soda, 1899, 25.
- Gypsy moth commission of Massachusetts, remarks on spraying, 1895, 367.

- Gypsy moth, notes on parasites, 1900, 27.
 opinion of Entomologist as to work in Massachusetts, 1898, 31.
 proposed investigation for 1898, 1897, 39.
 remedies, 1894, 573.

H.

- Hackel, E., note on work in agrostology, 1899, 364.
Hæmatobia serrata (horn fly), remedies, 1894, 573.
 Hainer, Alaska, note on cattle raising, 1898, 521.
 Hairs, root, in the soil, showing absorption of moisture, 1894, 169.
 Hairly woodpecker, destruction of ants and other insects, 1900, 293.
Haliaeetus leucocephalus (bald eagle), notes on feeding habits, 1900, 430.
 Hall, Maxwell, note on effort to establish West Indian weather service, 1898, 84.
 HALL, WILLIAM L., article on "Forest extension in the Middle West," 1900, 145-156.
 Halle, University, first professorship for teaching agricultural chemistry, 1899, 224.
 Haller, opinion of contagiousness of pleuro-pneumonia, 1899, 109.
 "Hallock Code" for cooperative legislation for game, 1899, 284.
Haltica chalybea (grapevine flea beetle), description and methods of injury, 1895, 395.
Halticus uhleri, notes, 1898, 260.
 Hamburg and Bremen, shipments of California brandy, 1898, 561.
 chickens, advantages and description of varieties, 1896, 467.
 inquiry as to exports of butter, 1898, 15.
 Hams, export from United States to United Kingdom, 1894, 17; 1896, 29.
 imports into United Kingdom, 1894, 13; 1895, 17, 24; 1896, 29.
 prices, wholesale, in London, 1895, 16.
 Hands, Bedingfield, introduction of crimson clover, note, 1899, 624.
 Hang-nest (Baltimore oriole), distribution and food habits, 1895, 426.
 Hansen, Prof. N. E., work as agent for introduction of seed, 1898, 36, 55.
 Haraszthy, Col. Agoston, introduction of European grapes in California, 1898, 552.
 Hard wheat, characteristics, value, region of growth, and market, 1896, 492.
 wood, basis of classification, 1896, 395, 397.
 woods, important, of eastern Tennessee and western Carolina mountains, list, 1900, 358.
 Hardy catalpa. (*See* Catalpa.)
 Harlequin cabbage bug, remedies, 1894, 573.
 fruit bug of Australia, method of attack, 1897, 547.
 Harmful weeds, list with origin, control, etc., 1897, 641-644.
Harporhynchus rufus (brown thrasher), food of nestlings, 1900, 415.
 distribution and food habits, 1895, 411.
 HARRINGTON, MARK W., article on "What meteorology is doing for the farmer," 1894, 117-120.
 Professor, administration of weather service, 1899, 79.
 Harris, Thaddeus William, first official entomologist in Massachusetts, notes on work, 1899, 136.
 Harrow, kinds useful in cultivation of pear orchard, 1900, 277.
 Harrows, improvements, 1899, 317.
 Harvard College, books on agriculture in library in 1790, 1899, 495.
 subscriptions for endowment of professorship, 1899, 161.
 Veterinary School, report on rabies, 1900, 212.
 Harvest of geraniums for oil, time, 1898, 383.
 rose, time in Bulgaria, 1898, 381.
 Harvester and self-binder, notes, 1899, 319.
 Harvesting and cultivation of corn, wheat, etc., 1899, 332.
 drying Smyrna figs, 1900, 93.
 marketing small fruits, 1895, 289.
 storing, influence on grass seed, 1898, 477.
 Canadian field peas, methods and machinery, 1895, 230.
 of millets, time and manner, 1898, 285.
 seed, 1899, 564.
 Harvey, experiments for discovery of movements of heart and blood, 1899, 95.
 Hatch Act for experiment stations, notes on passage and purpose, 1899, 172.
 limitations on use of funds for experiment stations, 1899, 521.
 bill, extract from report of committee to Congress, 1899, 517.
 William H., introduction of bill for experiment stations, 1899, 519.
 Havana seed leaf and Havana filler tobacco, notes, 1900, 163.
 note on growing in Connecticut, 1899, 27.
 tobacco, use in crossbreeding, 1897, 419.

- Hawaii and Louisiana, comparison of wages, 1898, 581.
 Porto Rico, agricultural experiment stations, 1900, 63.
 annual production of sugar, 1898, 567.
 as market for United States, note, 1900, 69.
 character of public lands, 1898, 349.
 Commissioner of Agriculture and Forestry, 1899, 687.
 importance of agriculture and need of investigation, 1898, 19.
 introduction of foreign birds, 1899, 290.
 island, coffee districts, 1898, 568.
 note on agricultural possibilities, 1899, 60.
 Albert Koebel's work in economic entomology, 1899, 154.
 need of experiment station, 1899, 33.
 public lands, 1898, 326.
 relation to United States land laws, 1898, 354.
 Spain and Porto Rico, note on reports of commerce, 1898, 37.
- Hawaiian Islands, classification of soils, 1898, 565.
 collection of albatross eggs, 1899, 271.
 danger of importation of fruit bats, 1898, 98.
 injuries by mina, 1898, 104.
 introduction of English sparrow, 1898, 100.
 mongoose and consequent losses, 1898, 95.
 new cultures and industries, 1898, 571.
 production of coffee, 1898, 569.
 the, article by Walter Maxwell, 1898, 563-582.
- Hawk, broad-winged, notes, 1894, 222.
 Cooper's, notes, 1894, 231.
 ferruginous, roughleg, rough-legged, and squirrel, notes, 1894, 219.
 marsh, manner of catching mice, 1900, 301.
 moths, species injurious to grape, 1895, 400.
 pigeon and Richardson's, notes, 1894, 228.
 red-shouldered and redtailed, notes, 1894, 220.
 sharp-shinned, notes, 1894, 232.
 sparrow, notes, 1894, 223.
 Swainson's, notes, 1894, 222.
 swallow-tailed, notes, 1894, 218.
- Hawks and owls, diet and relation to fruit growing; food of nestlings, 1900, 299, 428.
 erroneous notions as to habits, 1896, 628.
 study by Biological Survey, and bulletin, 1899, 265.
 from standpoint of the farmer, 1894, 215.
 harmful, 1894, 229.
 harmless species, 1894, 218.
 mostly beneficial, 1894, 220.
 wholly beneficial, 1894, 219.
- Hay, acreage, production, value, etc., 1895, 531; 1896, 571; 1897, 720; 1898, 679; 1899, 764, 770; 1900, 801-806.
 advantage of early cutting of millet, 1898, 286.
 amount cured annually in United States; estimated annual value, 1894, 24.
 and fodder plants, money value, 1895, 45.
 area in crop, changes from 1879 to 1889, 1895, 528.
 composition of different kinds, 1895, 561.
 crimson clover, danger, 1897, 501.
 crop, extent and proportion of native and foreign grasses, 1900, 581.
 relation of value to value of wheat crop, 1897, 160.
 effect of time of cutting on quality, etc., 1898, 285, 287, 288, 289.
 exports, 1891-1895, 1895, 545. (*See also* Exports.)
 to United Kingdom, 1894, 18.
 fertilizing constituents, 1895, 566.
 for the South, remarks, 1899, 353.
 from German millet, character, 1898, 273.
 leguminous plants, 1897, 493-503.
 imports, 1891-1895, 1895, 549. (*See also* Imports.)
 increase of product per acre in Southern States, 1897, 93.
 of millets and other forage plants, composition, 1898, 655, 656.
 prairie, remarks on value, 1895, 318.
 reckoning of amount and value, 1898, 669.
 relative quality of Eastern and Western timothy, 1896, 153.
 salt marshes, chemical composition, 1895, 332.
 share in distribution of weeds, 1896, 275.

- Hay, statistics of acreage, price, etc., 1894, 538, 545; 1895, 528, 531, 532, 536, 541, 545; 1896, 571, 578, 583; 1897, 711, 720, 722, 725, 730; 1898, 679, 691, 694, 699; 1899, 764, 770, 787, 792, 797, 808; 1900, 801-806.
 timothy, comparison with corn stover (fodder), 1896, 353, 354, 355.
 reduction of value by removal of seed, 1898, 486.
 use as bedding for cattle after dipping, 1898, 461.
 yield of barnyard millet, 1898, 279.
- Haying, 1899, 726. (*See also* Weather and crop.)
- Haymaking, progress of improvements, 1899, 332.
- Hays, W. M., experiments for improvement of wheat, 1899, 487.
- Hazen, General, administration of weather service, 1899, 79.
- Head gate, selection of site; necessity in irrigation and common type, 1900, 501, 504.
- Health, human, value of supervision of animal industries, 1897, 238.
 of dairy herd considered, 1894, 304.
 plants in greenhouses, article by B. T. Galloway, 1895, 247-256.
 officers, note on regulation as to weeds, 1898, 199.
 public, relation of bovine tuberculosis, 1894, 329.
- Heart, experiments of Harvey for discovery of movements, 1899, 95.
- Heartwood of trees, resistance to fungi; destruction by fungi; 1900, 201, 202, 203.
- Heat, endurance by millets, 1898, 270.
 for destroying insects in stored material, 1898, 238.
 relation to growing principal crops in 1900, 1900, 697-614.
 remarkable conditions in air during hot waves, remarks, 1900, 334.
 summer, effect on dipped cattle in transport, 1898, 462.
- Heath, Perry S., views on free rural delivery of mails, 1900, 318.
- Heating greenhouses, improvement, 1899, 578.
- Hedge plant, notes on use of osage orange; *Citrus trifoliata*, 1900, 148, 628.
 plants, early suggestions, 1897, 182.
- Hedges, list of species of plants, 1897, 198.
 pruning, 1898, 157.
- Hedrick, Professor, statements as to poison of water hemlock, 1900, 312.
- Helianthus annuus* (sunflower), seed for producing oil, 1895, 193. (*See also* Sunflower.)
sativa seed, various uses of the oil, 1895, 195.
 spp. (sunflower), crop suitable for alkali soils, 1895, 120.
- Heliothis armiger* (budworm), remedies, 1894, 573.
rhexia and *armiger*, description; injury to tobacco, 1898, 132, 255.
- Hellebore, preparation and use as insecticide, 1894, 575.
- Hellriegel, Professor, paper on bacteria as means of supply of nitrogen for leguminous plants, 1899, 248.
- Helms, R., opinion, against starling, 1889, 102.
- Hemisarcophaga coccisugus*, scale insect enemy, 1894, 253.
- Hemlock, American water, occurrence; other poison hemlocks, 1896, 142.
 notes on injury by *Polyporus pinicola*, 1900, 209.
 poison, fatal constituent, 1896, 143.
 symptoms of poisoning; treatment, 1896, 143.
- Hemlocks, water, characters, species, distribution, poison, and damage, 1900, 310-314.
- Hemp and flax, notes on production on Pacific coast, 1897, 235.
 breaking, remarks on machinery used, 1895, 222.
 culture, article by Chas. Richards Dodge, 1895, 215-222.
 general remarks, 1895, 217.
 decline of industry in United States, 1895, 216.
 description and uses, 1895, 198.
 discussion by Secretary, 1899, 64.
 harvesting, 1895, 218.
 imports, 1891-1895, 1895, 549.
 nativity and uses, 1895, 215.
 note on publications of Office of Fiber Investigations, 1897, 234.
 prices per ton and average yield per acre, 1895, 222.
 production per acre and price per bushel, 1895, 199.
 seed oil, production and use, 1895, 198.
 sisal, note on introduction into United States, 1897, 199.
- Hen, period of incubation, eggs in setting, etc., 1900, 740.
- Henderson, J. T., statement as to raising Angora goats in Georgia, 1898, 424.
- HENRY, ALFRED J., article on "Amplification of weather forecasts," 1900, 107-114.
 "Rainfall of the crop season," 1897, 607-618.
 Professor, weather maps under supervision, 1899, 77.
- Hens, laying, use of millet, 1898, 288.

- Heracleum lanatum*, use as food in Alaska, 1897, 221.
- Herbarium (Agrostology), additions, 1899, 31.
of Division of Agrostology, notes, 1899, 366; 1900, 41.
- Herd, dairy. (*See* Dairy herd.)
improvement for dairy cattle, remarks, 1899, 391.
- Herdling sheep, danger of range method, 1900, 309.
- Herd's grass or red top, note on usefulness and seed, 1898, 493.
- Hereford, breeders, struggle for place among cattle, 1899, 636.
cattle, importation for breeding, 1899, 332.
- Hérons, destruction for feathers, 1899, 273, 274.
food of nestlings, 1900, 435.
- Hershey, Dr. S. E., statement as to rabies in West Virginia, 1900, 218.
- Hessian fly and chinch bug, investigations and bulletins, 1898, 32.
note on importation, 1897, 538.
proposed bulletin, 1897, 40.
remedies, 1894, 573.
- Hevea brasiliensis* (rubber plant), note, 1899, 62.
- Hickories and other varieties of trees, growing, etc., 1897, 659.
- Hickory and pine, annual growth at Oakland, N. J., 1898, 305.
wood, preservation of meat by smoke, 1900, 551.
- HICKS, GILBERT H., and JOHN C. DABNEY, articles on "The superior value of large, heavy seed," 1896, 305-322.
SOTHORON KEY, article on "Additional notes on seed testing," 1897, 441-452.
article on "Grass seed and its impurities," 1898, 473-494.
"Oil-producing seeds," 1895, 185-204.
"Pure seed investigation," 1894, 389-404.
- Hides and skins, imports and exports for five years ended June 30, 1898, 1898, 706, 712.
use of formaldehyde in disinfection, 1896, 262.
- High schools, United States, suggestions as to agricultural training, 1896, 366.
- High-pressure and low-pressure areas, meaning, 1897, 75.
- Highway traffic, kind of road and of road material, 1900, 354.
- Highways, including railways, consumption of wood, 1896, 405.
national, movement, 1899, 372.
State of Massachusetts, 1894, 505.
suggestion regarding tree planting, 1896, 326.
- Hilaria rigida* (Galleta), value in desert region, 1900, 595.
- Hilgard and Loughridge, report on moisture content of soils in drought, 1898, 403.
- HILGARD, E. W., article on "Origin, value, and reclamation of alkali lands," 1895, 103-122.
experimental work at University of California, 1899, 515.
geological and chemical investigations, 1899, 340.
introduction of forage plants, note, 1899, 362.
statement as to failure of perfumery making in California, 1898, 387.
work in agricultural chemistry, 1899, 228.
- Hilgard's method of soil analysis, remarks, 1900, 401.
- HILL, GEO. WM., article on "Notes on some English farms and farmers," 1898, 583-589. (*See also* EDITOR.)
review of work of Division of Publications, 1897, 204-220.
- Hill, Robert T., observations on Porto Rico, 1898, 511.
- Hillsides, cultivation of olive in California, 1896, 377.
- Hinehauch, Dr., conclusion as to injury to horses from millet hay, 1898, 290.
- Hinson, W. G., method of selection in improvement of sea island cotton, 1898, 362.
- Hirundo erythrogastra* (barn swallow), food of nestlings, 1900, 418.
- HITCHCOCK, FRANK H., review of work of the Section of Foreign Markets, 1897, 270-278.
- Hoerle, G. A., observations on climate for Angora goats, 1898, 424.
- Hog, ages and periods important in breeding, 1900, 740. (*See also* Swine.)
and sheep pasture, use of woodland, 1899, 422.
carcasses, cost of microscopic inspection and number inspected, 1895, 11.
microscopic inspections, 1899, 48.
cholera and sheep scab, work of Bureau of Animal Industry, 1899, 452.
swine plague, remarks of Secretary on serum, 1900, 18.
tuberculosis, remarks on control, 1897, 25.
bacteria, inefficiency of separators in removing, 1895, 440.
note on remedy; experiments with serum, 1898, 13, 27.
question, review, 1897, 252.

- Hog cholera, remarks on experiment in Iowa, 1897, 22.
 spread from slaughterhouses, 1896, 161.
 treatment, remarks by Secretary, 1899, 50.
 use of antitoxic serum, 1897, 253.
 serum, and "stamping out," notes, 1899, 453.
 products, American, exports to United Kingdom, 1894, 13.
 reason for low prices in England, 1896, 32,
 British imports, statistics of quantity and prices, 1896, 31, 32.
 Danish occupation of British market, 1896, 32.
 suggestions to packers for foreign trade, 1895, 16.
 value of exports to different countries, 1895, 546.
 slaughtered, parts taken for inspection, 1899, 462.
- Hogg, Thomas, system for heating greenhouses, 1899, 578.
- Hogs, ante-mortem inspection, etc., 1894-1897, 1897, 19, 20. (*See also* Pigs and Swine.)
 class subject to condemnation, 1898, 24.
 cowpeas as feed, 1896, 292.
 determination of age by teeth, 1898, 667.
 exports, 1891-1895, 1895, 543. (*See also* Exports.)
 from Ireland to Great Britain for eight months in 1895, 1895, 23.
 feeding standards, Wolff's tables, 1896, 609.
 freight rates, Chicago to New York, 1896, 598. (*See also* Freight.)
 immunity from poisoning by camas, notes, 1900, 321.
 infection with trichinosis by eating rats and offal, 1896, 159.
 inspection for export, 1899, 456.
 losses by disease in last census year, 1897, 238.
 number carcasses inspected, 1891-1894, 1894, 67, 68.
 in Great Britain in 1895, 1895, 15.
 numbers inspected, 1891-1897, 1897, 250.
 of inspections, fiscal year of 1899, 1900, 16.
 spread of disease by use of offal as feed, 1896, 156.
 statistics of inspection and rejection, 1896, 19. (*See also* Statistics.)
 in 1898, 1898, 23.
 use of milk products as feed, 1897, 516, 522, 527.
 millet seed, 1898, 288.
 value of exports to different countries, 1895, 546.
- Holcus lanatus* (velvet grass), amount to sow, etc., 1894, 570.
- Holidays, legal, 1898, 677.
- Holland, amount of sodium nitrate used for manurial purposes, 1895, 90.
 butter and cheese exhibit at Paris Exposition 1900, and awards, 1900, 612, 618.
 exports of beef to United Kingdom, 1893-1895, 1895, 22.
 butter to United Kingdom, 1893-1895, 1895, 30.
 cheese to United Kingdom, 1893-1895, 1895, 29.
 mutton to United Kingdom, 1895, 25.
 pork to United Kingdom, 1895, 17.
 prevention of rabies by muzzling of dogs, 1900, 245.
- HOLMES, GEORGE K., article on "Agricultural production and prices," 1897, 577-606.
 "Progress of agriculture in the United States," 1899, 307-334.
- HOLMES, J. A., article on "Improvement of public roads in North Carolina," 1894, 513-520.
- Home, farmers' discussion of problems, 1897, 17.
 markets in Porto Rico, notes, 1898, 509.
 reading courses in agriculture, 1899, 188.
 in agriculture, plans, 1897, 282.
- Homestead law, effects on farm lands in Eastern States, 1896, 49, 50.
 lack of adaptation to the arid region, 1899, 603.
- Homesteads, land laws, 1898, 349.
- Honey bees, value in cross pollination in orchard, 1898, 180.
 imports, 1891-1895, 1895, 548.
 mushroom, injury to trees by parasitic growth, 1896, 249.
 prices, wholesale in England, 1895, 31.
 source of supply to United Kingdom, 1895, 31.
 substitution of glucose, 1899, 244.
- Honolulu, character and control of milk and meat supply, 1898, 577.
 notes on cattle supply, 1898, 575.
 rainfall, 1898, 564.
 supply of vegetables, 1898, 571.
 variations in temperature, 1898, 563.

- Hoop poles, ties, etc., market at Oakland, N. J., 1898, 306.
- Hop crop of certain countries, 1895-1899, 1899, 780.
- Hop-plant louse and horn fly, remedies, 1894, 573.
- Hops, exports, 1891-1895, 1895, 545. (*See also* Exports.)
 - imports, 1891-1895, 1895, 549. (*See also* Imports.)
 - statistics of crop and of United States prices, 1899, 780; 1900, 815.
 - wholesale prices in leading cities, 1899, 809; 1900, 815.
- Hornblowers, larvæ as tobacco worms, 1898, 128.
- Horned larks, eating of weed seeds, 1898, 230.
- Horse, ages and periods important in breeding, 1900, 740.
 - bean, poison injurious to stock, 1897, 504.
 - breeders' associations, secretaries, etc., 1898, 613; 1899, 693; 1900, 647.
 - determination of age by teeth, 1898, 667.
 - exports. (*See* Exports.)
 - inoculation with virus of glanders from man, 1899, 98.
 - meat, amount inspected 1899; examination by Division of Chemistry, 1900, 16, 24.
 - mushroom, edible, description, 1897, 460.
 - rediscovery of variola, 1899, 105.
 - wild, instances of shooting as pests, 1898, 88.
- Horseless carriage, use on steel-track wagon road, 1898, 294.
- Horsepower, use in lifting water for irrigation, 1896, 181.
- Horsepox, cowpox, variola, discussion, 1899, 102.
 - discussion, 1899, 107.
 - smallpox, and cowpox, relation, 1899, 108.
- Horses, American, efforts for better market abroad, 1897, 277.
 - for English markets, 1894, 22.
 - in England, remarks by secretary, 1896, 33.
 - Glasgow, remarks on importation and sale, 1895, 27.
 - world's market, 1895, 26.
 - price in Great Britain and number sold there, 1893-1895, 1895, 26.
 - remarks of Secretary on market, 1899, 57.
 - amount and value of manure, 1896, 616; 1897, 688.
 - and horse products, inspection, 1898, 26.
 - products, provision for inspection, 1899, 460.
 - sheep, production of anthrax, 1899, 115.
 - explanation of decrease in value, 1897, 264.
 - exports, 1891-1895, 1895, 543. (*See also* Exports.)
 - 1892 to 1896, by leading countries of destination, 1896, 588.
 - to different countries, values, 1895, 546.
 - imports, 1891-1895, 1895, 548. (*See also* Imports.)
 - inspection for export, 1895, 28.
 - in France, early spread of glanders, 1899, 97.
 - number and value, 1893-1897, 1897, 263.
 - numbers of inspections, 1900, 16, 17.
 - on English farms, notes, 1898, 585, 586, 587, 588.
 - outlook for industry in export, 1897, 11.
 - statistics of numbers, value, etc., 1895, 533, 543, 548; 1896, 574, 577; 1897, 733, 734; 1898, 701, 702, 703; 1899, 818, 819; 1900, 824.
 - susceptibility to plant poisoning, note, 1900, 309.
 - use of skim milk as food, 1897, 519.
 - wholesale prices, 1900, 824.
- Horsetail fungus, ease of distinguishing from poison species, 1897, 461.
- Horticultural and kindred societies, officers, 1898, 621; 1899, 704; 1900, 658.
 - curiosity, fig tree at Bidwell place, Chico, Cal., 1900, 79.
 - exhibit for Paris Exposition, note, 1899, 20.
 - grounds at agricultural colleges, notes, 1898, 65, 67.
 - investigations of experiment stations, 1899, 545.
 - plants, practical tests by experiment stations, 1899, 538.
 - school, national, of France, methods, course, expenses, etc., 1900, 120.
 - society, New York, first of its kind in America, note, 1899, 162.
 - writings of William Saunders, note, 1900, 626.
- Horticulture, forestry, and landscape gardening, books in library, 1897, 221.
 - practice among the Romans and subsequent neglect, 1899, 595.
 - secondary instruction in Belgium, 1896, 366.
 - work of experiment stations, 1899, 536.
- Horticulturist, note on publications on grapes, 1897, 187.
- Horticulturists, discussion of injurious insects, 1897, 529, 541.

- Hosackia purshiana* (wild vetch), value as a forage plant, 1895, 318.
- Hospitals, relation to dietary studies, note, 1898, 451.
- Hot water, introduction in heating greenhouses, 1899, 579.
 treatment of fungous diseases, direction, 1897, 675.
- wave records, summary, August-September, 1900, 327, 332.
- waves, conditions of production and effect on agriculture, article by Alvin T. Burrows, 1900, 325-336.
 general weather conditions, eastward circulation, 1900, 333, 336.
 sections of United States affected, 1900, 329.
- winds, effect on crops and means to prevent, 1894, 162.
- Hotbeds, forcing of vegetables, 1899, 579.
 notes on early constructions, 1899, 582.
 use among the Romans, 1899, 575.
- Houdan chickens, description, advantages, and weight, 1896, 468.
- Hough, Franklin B., appointment to report on timber and other forest products, 1899, 301.
- Houghton Farm, experiment station, account, 1899, 517.
- Houghton's Seedling gooseberry, production, 1899, 483.
- House mouse and house rat, notes on history and distribution, 1898, 92.
 wren. (*See* Wren, house.)
- Hovey, C. M., improvement of strawberry by hybridization, 1899, 473.
 introduction of improvements in greenhouse construction, 1899, 580.
 remark on improvement of grape, 1899, 472.
- Hovey's Seedling strawberry, development and introduction, 1899, 482.
- HOWARD, GEORGE E., article on "Some standard varieties of chickens," 1896, 445-470.
- HOWARD, L. O., article on "Danger of importing insect pests," 1897, 529-552.
 "Progress of economic entomology in the United States," 1899, 135-156.
 "Smyrna fig culture in the United States," 1900, 79-106.
 "Some scale insects of the orchard," 1894, 249-276.
 "The principal insects affecting the tobacco plant," 1898, 121-150.
 "The shade-tree insect problem in the Eastern United States," 1895, 361-384.
 "The use of steam apparatus for spraying," 1896, 69-88.
 review of work of Division of Entomology, 1897, 84-89.
- HUBBARD, HENRY G., article on "Ambrosia beetles," 1896, 421-430.
 H. G., work on "Insects affecting the orange," note, 1900, 247.
- Hudsonian life zone, description, 1894, 210.
- Huller, clover, evolution, 1899, 565, 566.
- Human and animal diseases, remarks on similarity, 1895, 432.
 beings, communicability of rabies of dog, 1900, 225.
 cases of poison by camas, remarks, 1900, 321.
 food, note on danger of use of weeviled peas, 1898, 233.
 foods, composition, 1894, 547.
 and adulteration, 1897, 81.
 notes and tables, 1895, 573.
- Humates, experiments at Minnesota Experiment Station, 1895, 136.
 of the soil, experiments; value; means of increasing, 1895, 136.
- Humic acids as cause of clover sickness, 1897, 493.
- Humid and arid regions compared, 1894, 157; 1898, 500.
- Humidity and temperature, relation to soil moisture, 1897, 122.
 low, relative, relation to Western soils, 1897, 435.
 relation to flax growing, notes, 1897, 477.
 fruiting of date palm, 1900, 468.
- Humming birds, food of nestlings, 1900, 427.
- Humus, amount of nitrogen contained in different soils, 1895, 133.
 composition, 1895, 132.
 elements, note on entrance into plants, 1899, 220.
 functions, 1895, 131.
 in its relation to soil fertility, article by Harry Snyder, 1895, 131.
 loss from burning over by forest fires and otherwise, 1895, 135.
 new facts in chemistry, 1899, 742.
 note on error of Liebig regarding office in agriculture, 1899, 219.
 of the soil, effect of fall plowing, 1895, 134.
 means of maintaining, 1895, 139.
 relation of soil ferments, 1895, 95.
 study by chemist, note, 1899, 240.
 water capacity of soils containing different amounts, 1895, 138.

- Hungarian brome grass as soil binder, 1894, 435.
 note on introduction, 1900, 141.
 hay, digestibility, 1898, 288.
 millet, description, introduction, and value, 1898, 274.
 (grass), fertilizing value, 1898, 289.
 Minister of Agriculture, note on exchange of crop reports, 1900, 73.
- Hungary, award for cheese at Paris Exposition of 1900, 1900, 617.
- Hunt, Dr. J. Sidney, statement on preventive inoculation for Texas fever, 1898, 468.
- Hurricane in Windward Islands, September 11, 1898, warning by Weather Bureau, 1898, 85.
 West Indian, study of region of formation, 1898, 83.
- Hurricanes, cyclones, and tornadoes, article by F. H. Bigelow, 1898, 525-534.
 discussion by Redfield, Esby, and others, 1899, 74, 75.
 features, 1898, 530.
 physical features, 1898, 531.
 success of forecasts by Weather Bureau, 1896, 38; 1898, 21.
 West Indian, preparation for observations, 1898, 20.
- HUSMAN, GEORGE, article on "The present condition of grape culture in California," 1898, 551-562.
- Hutchins, F. A., suggestion for books for farmers, 1899, 512.
- Hyacinth, water, injury by freezes in Florida in 1894-1895, 1895, 173.
- Hybrid, desirable, fixation of characters by selection, 1897, 408.
 pears, experiments in improvements, 1900, 370.
 raspberries, parentage of Dictator and Caroline, 1899, 481.
 stocks for vines, observations of Ganzin, 1897, 420.
- Hybridization, adaptation to warmer climates, 1897, 415.
 in tea culture, note, 1899, 58.
 increase of starch, sugar, etc., 1897, 417.
 note on use in improvement of plants, 1899, 472.
 notes on Indian corn, 1897, 404.
 of blackberry and raspberry, 1899, 481.
 orange, details, 1897, 387.
 pears, hope of improvement, 1897, 416.
 recent attempts at improvement of plums, 1899, 480.
 suggestions of improvements in plants, 1897, 418.
- Hybridizing, experimental work in Department, 1898, 34.
 of plants, early suggestion, 1897, 181.
- Hybrids and their utilization in plant breeding, article by Walter T. Swingle and Herbert J. Webber, 1897, 383-420.
 compound, usefulness, 1899, 474.
 discussion of descendants, 1897, 398.
 first exact knowledge, 1899, 469.
 fixation by selection, note, 1898, 366.
 grouping by generations, 1897, 393-398.
 importance of growing through several generations, 1899, 474.
 increase of vigor and fruitfulness, 1897, 414.
 increased vigor as compared with parents, 1897, 403.
 of grapes, remarks on production, 1899, 476.
 pears, improvement by natural production, 1899, 477.
 practical utilization in plant breeding, 1897, 407.
 production for improvement of grapes and oranges, 1898, 265.
 sterile and fertile, notes on variation, 1897, 395.
 value for stocks, 1897, 409.
- Hydatids, description, production in country slaughterhouses, 1896, 160.
- HYDE, JOHN, review of work of Division of Statistics, 1897, 258-270.
- Hydnum*, two species, edible toadstools, description, etc., 1897, 467.
- Hydrochloric acid, use in making glucose, 1899, 254.
- Hydrocyanic-acid gas, note on first recommendation of use by nurserymen, 1899, 152.
 preparation and use as insecticide, 1898, 660.
 treatment for insects, 1894, 576.
 use against scale insects, remarks, 1900, 254.
 tobacco insects, 1898, 147.
 as insecticide, 1897, 638; 1899, 150.
 on greenhouse plants, 1898, 264.
- Hydrophobia, disappearance in London after muzzling of dogs (*see also* Rabies), 1900, 245.
 in man relation to rabies, statistics, 1900, 211, 212, 219.
- Hymenomycetes, or toadstools, some characters, 1897, 455.

- Hymenopterous parasites as enemies of scale insects, remarks, 1900, 251.
Hyphantria cunea and *Hypoderma lineata* (ox bot), remedies, 1894, 574.
 (fall webworm), shade tree insect, 1895, 375.
Hypholoma appendiculatum (edible mushroom), description, 1897, 461.
Hypoderma lineata (ox bot), remedies, 1894, 574.
 Hypodermic injections for poisoning, notes, 1900, 318, 324.

I.

- Ice, notes on use in refrigeration of cars, 1900, 446, 447.
 use in refrigeration and early shipments south, 1900, 563.
Icerya purchasi (fluted scale), distribution and control, 1900, 280.
 remedies, 1894, 573. (*See also* White scale.)
Icterus bullocki (oriole), distribution and food habits, 1895, 426.
galbula (Baltimore oriole), distribution and food habits, 1895, 426.
 spp. (orioles), food, 1900, 298, 422.
 Idaho, character of public lands, and their water supply and irrigation, 1898, 338.
 mention of Cœur d'Alene botanical survey, 1897, 97.
 public lands, 1898, 326, 330.
 rainfall sufficient for wheat growing, note, 1900, 532.
 Illinois Board of Agriculture, library, 1899, 504.
 Health, report as to Texas fever, note, 1897, 241.
 destruction of native cattle by Texas fever, 1899, 126.
 dipping of cattle, 1898, 461, 463, 464, 465.
 Experiment Station, crossbreeding of corn, 1897, 413.
 note on use of osage orange for posts and hedges, 1900, 149.
 Immigration, flow from Europe into United States, 1899, 655, 656.
Imperata hookeri ("blady grass"), notes, 1894, 435.
 Implements, farm, relation to products and to farm capital, 1897, 589, 590.
 Import animals, inspection and quarantine, 1899, 457.
 Importations of cattle for breeding, 1899, 632.
 Imported animals, inspection and quarantine, 1894, 80; 1896, 22.
 elm leaf-beetle, life history, habits, and food plants, 1895, 364.
 original home and present distribution, 1895, 363.
 remedies, 1894, 573; 1895, 366.
 Imports, agricultural, remarks on relation to plant introduction, 1900, 134.
 of agricultural products, statistics, 1894, 543; 1895, 548; 1896, 591, 594, 596;
 1897, 736-742, 749-751; 1898, 705-712, 718, 721; 1899, 822-828, 836-837;
 1900, 840-846, 854-856, 858.
 beef into United Kingdom, 1893-1895, 1895, 22.
 butter and eggs into the United Kingdom, 1893-1895, 1895, 30.
 cattle into United Kingdom, 1893-1895, 1895, 23.
 fruits and nuts, Treasury statement in 1821, 1897, 311.
 unmanufactured wool, 1892-1896, by countries of supply, 1896, 594.
 Inarching, practice with citrus fruit stocks, 1896, 487.
 Inbreeding, source of deterioration of seed, 1896, 215.
 Incubation of rabies in dog, 1900, 234, 235.
 periods for domestic fowls, 1900, 740.
 Indexes to agricultural literature, proposed publication by library, 1897, 224.
 India, annual exports of rapeseed, 1895, 200.
 British, grazing of domestic animals in Government forests, 1898, 187.
 growing of millet, 1898, 270.
 irrigation by use of cheap labor, 1896, 181.
 production of cotton, 1898, 684.
 rice, description, 1895, 330.
 rubber, discussion of trade, supply, etc., by Secretary, 1899, 61.
 use of millet as food, 1898, 280.
 Indian corn, analyses, note, 1899, 236. (*See also* Corn.)
 early use of fish as manure, 1899, 209.
 hybrids and hybridization, 1897, 396.
 method of cultivation among Indians, 1899, 307.
 note on use for starch, 1899, 253.
 selection of seed, 1898, 356.
 lands, allotment by President, 1898, 352.
 meal moth, notes, 1894, 285.
 Ocean, spread of English sparrow to islands, 1898, 100.
 reed, notes, 1894, 434.

- Indian Territory and Oklahoma, dipping of cattle, 1898, 470.
 public lands, 1898, 326, 330.
- Indiana Experiment Station, report on rabies, 1900, 215.
 work on crop zones, 1897, 33.
 note on development of nature teaching in common schools, 1898, 18.
 scarcity of white oak, 1900, 147.
- Indians, beginning of agriculture, 1899, 307.
 selection of corn for seed, 1899, 468.
- Indigo, quantity and value of imports, 1891-1895, 1895, 549.
 Society, Winyah, remarks on library, 1899, 494.
- Infection, diseases spread from country slaughterhouses, 1896, 160.
 with tuberculosis, danger to persons handling tuberculin, 1898, 113, 114.
- Infectious diseases. (*See Diseases, infectious.*)
- Inflowering in manufacture of perfumery, 1898, 380.
- Ingenhousz, effect of sunlight on plant absorption of carbonic acid, 1899, 219.
- Ingredients, nutritive, of food, 1894, 361.
- Injurious insects, investigations (*see also Insects*), 1897, 39.
 methods of control, 1897, 635-640.
 number and importance of imported species, 1897, 530.
 principal, 1899, 745-748; 1900, 725-729.
- Ink for marking inspected meat, improvement, 1897, 25, 249.
- Inland sand binders, 1894, 433.
- Inoculation as aid to diagnosis of glanders, 1899, 101.
 a preventive of Texas fever (*see also Vaccination*), 1897, 244.
 experiments in study of glanders, 1899, 98, 99, 100.
 Texas fever, investigations, 1899, 130.
 with nitrogen-fixing bacteria, 1897, 299.
 for tick fever, statement of Dr. J. Sidney Hunt, 1898, 468.
 transmission of anthrax to domestic animals, 1899, 116.
- Inoculations and exposures, experimental, success, 1899, 113.
 by Lafosse showing connection of cow pox, 1899, 106.
 experimental, upon animals and children, remarks, 1899, 108.
 in biological test of disease, notes, 1900, 224.
 with blackleg, experiments, 1899, 122.
- Insect control, conclusions as to problem in California, 1896, 235.
 contrast of conditions in California with other sections, 1896, 236.
 in California, article by C. L. Marlatt, 1896, 217.
 enemies, principal, of the grape, article by C. L. Marlatt, 1895, 385-404.
 (fig), carrying through winter, 1900, 86.
 migration, note on general trend, 1897, 532.
 pests and plant diseases in Hawaiian Islands, 1898, 574.
 consumption by nestling birds and value of saving to farmers, 1900, 436.
 danger of importing, article by L. O. Howard, 1897, 529-552.
 in Hawaii and West Indies, need of investigation, 1898, 19.
 powder, nature and use, 1897, 639.
 use as insecticide, 1898, 661.
 regulations, California system, 1896, 219.
 shade tree, problem in the eastern United States, article by L. O. Howard, 1895, 361-384.
- Insecticide, introduction of Paris green, 1899, 146.
 mixture recommended by Professor Kedzie, 1899, 149.
- Insecticides and methods of controlling injurious insects, 1894, 572.
 for use against scale insect enemies of citrus trees, 1900, 256.
 investigations, 1897, 39.
 machinery for distributing, 1899, 152.
 using, 1896, 235.
 preparation and use, 1894, 574; 1895, 582; 1896, 619; 1897, 637; 1898, 659.
 study by chemist, note, 1899, 240.
 three main discoveries, 1899, 152.
 use against common asparagus beetle, 1896, 348.
 in insect control in California, 1896, 227.
 of potash salts, 1896, 134.
 washes and fumigation used in California, 1896, 227.
- Insects, advantages of destruction by crows (*see also Injurious*), 1897, 348.
 beneficial, remarks on importation, 1900, 27.
 boring, injury to trees by affording entrance to fungi, 1900, 201, 202, 203.
 citrus, general considerations, discussion (*see also Scale*), 1900, 248.
 content of blue jay's stomach, 1896, 199.

- Insects, control by washes and fumigation, 1896, 227.
 cross fertilization of plants by visits, 1896, 211.
 dangerous Japanese, problem of importation, 1897, 550.
 destructive European, danger of importation, 1897, 548.
 eaten by Baltimore oriole, 1895, 428.
 meadow lark, 1895, 423.
 enemies of the olive, 1896, 389.
 grain, 1894, 277, 278.
 importation in packing of merchandise, 1897, 538.
 important, remedies, 1895, 572; 1897, 635.
 in greenhouses, use of hydrocyanic-acid gas, 1899, 151.
 stored material, note on use of heat for destruction, 1898, 238.
 injurious, early remedies, 1899, 144.
 from Pacific regions, 1897, 533.
 list, with remedies and means of controlling, 1895, 580.
 methods of controlling, and insecticides, 1894, 572; 1895, 580;
 1896, 617; 1897, 635; 1898, 657.
 Mexican and Australian, discussion, 1897, 546.
 new era in remedies, 1899, 146.
 principal, 1899, 745; 1900, 725.
 remarks on work, 1900, 28.
 to beans and peas, article by F. H. Chittenden, 1898, 233-260.
 stored grain, 1894, 277.
 the grape, article by C. L. Marlatt, 1895, 385-404.
 wheat, cotton, the grapevine, etc., report by Townend Glover,
 1899, 138.
 investigation of groups, by Entomologist, 1897, 87.
 methods of importation, 1897, 536.
 multiplication among weeds on vacant lots, 1898, 197.
 note on consumption by grackle and blackbird, 1897, 352.
 importance in cross pollination of fruit, 1898, 179.
 investigations, 1898, 30.
 of Massachusetts, catalogue, notes on several publications, 1899, 137.
 orange fertilization, affecting, 1894, 201.
 part in production of disease in plants, 1897, 101.
 principal, affecting the tobacco plant, article by L. O. Howard, 1898, 121-150.
 injurious, 1899, 745-748; 1900, 725-728.
 relative immunity of shade trees, 1895, 377.
 scale. (*See Scale insects.*)
 shade-tree, article by L. O. Howard, 1895, 361-384.
 suggestions for destruction, 1897, 182.
 various families represented in blue jay's food, 1896, 200, 201.
- Inspection against foreign insects, proposal, 1897, 38.
 and quarantine, national, problem, 1897, 551.
 of animals imported, 1895, 13; 1896, 22; 1897, 23, 250.
 export animals, 1899, 457.
 ante-mortem and post-mortem, table, 1897, 19, 20.
 California system against insects, 1896, 218.
 diseases discovered, 1894, 69.
 Federal meat, 1894, 67.
 for milk products, 1897, 23.
 general, of animals and products, 1899, 459.
 in Bureau of Animal Industry, decrease of cost, 1898, 24.
 Great Britain of animals from United States, 1894, 79.
 meat, work of the Bureau of Animal Industry, 1895, 9, 10; 1900, 15.
 microscopic, cost and facility, 1897, 21, 248, 249.
 need of fund, 1897, 22.
 of agricultural instruction in France, notes, 1900, 116.
 animals for food, discussion, with statistics, 1896, 17-24.
 table of numbers, 1897, 250.
 breeding animals for import, establishment of service, 1900, 20.
 dairy products, indorsement, 1899, 53.
 observations by Secretary, 1898, 16.
 export animals before shipment, 1899, 456.
 foreign goods; note on necessity, 1898, 13.
 horses for export, 1895, 28.
 imported and exported animals, 1897, 21.

- Inspection of imported animals, 1894, 80.
 - live animals for exportation, 1895, 11.
 - meat. (*See* Meat inspection.)
 - pork, reduction of cost, 1899, 464.
 - stock yards and vessels by Department, 1895, 12.
 - Texas fever, cost, 1895, 13.
 - vessels, 1894, 77.
 - and animals for export, 1898, 25.
 - export animals, statistics, 1900, 17.
- principles governing, 1894, 71.
- purpose of European, 1894, 70.
- service of experiment stations, remarks of Secretary, 1900, 56.
- Southern cattle, 1896, 22.
- stock yards, 1894, 78.
- system, extension on land frontier, 1897, 251.
- tagging and certification of export cattle, 1897, 244.
- under Connecticut law, note, 1897, 427.
- vessels and export animals, table of numbers, 1893 to 1896, 1896, 21.
- work of experiment stations, 1899, 540.
- Inspections, animal, number and cost, 1899, 48.
- Inspectors for Division of Statistics, recommendation, 1898, 60.
 - of meat placed in the classified service, 1895, 9.
- Instrumental equipment of weather service, note, 1899, 84.
- Insular dependencies of United States, investigation of agricultural resources, 1898, 19.
- Insurance rates on cattle, reduction, 1897, 246; 1899, 458.
- Interest rates, averages for typical States, 1896, 52.
 - on farm mortgages for group States, 1896, 51.
- International simultaneous observations, note, 1899, 86.
- Invalids, use of whey, 1897, 528.
- Inventions, effect on cotton crop, 1897, 597.
 - labor-saving, effect on wages, 1896, 54.
- Investigations, agricultural, in Alaska, 1898, 49.
 - original, need in irrigation work, 1898, 53.
 - remarks by Secretary on importance, 1898, 48.
- Iowa Agricultural Experiment Station, experiments in manufacture of cheese, 1895, 470.
 - estimate of amount of weed seed destroyed by birds, 1898, 226.
 - experiment as to control of hog cholera, 1897, 22.
 - station, introduction of new cereal crops, note, 1900, 140.
 - report on feed for calves and colts, 1897, 518, 519.
 - note on treatment of hog cholera, 1899, 50.
 - use of Osage orange for posts and hedges, 1900, 149.
 - notes on profitable tree planting, 1900, 146.
 - serum treatment for hog cholera, 1899, 453.
 - State College of Agriculture and Mechanic Arts, work, 1898, 70.
 - report from veterinary department on rabies, 1900, 214.
- Ireland, exports to Great Britain of cattle, sheep, and hogs in 1895, 1895, 23.
 - functions of proposed department of agriculture, 1896, 549.
 - number of cattle in June, 1895, 1895, 18.
- Iris root, imports; species for production of perfumes, 1898, 391.
- IRISH, CHARLES W., article on "Climate, soil characteristics, and irrigation methods of California," 1895, 475-486.
- Irish potatoes, soils adapted, 1894, 133. (*See also* Potatoes.)
- Iron mining in Cuba, note, 1898, 671.
 - ore, bog, use in road building, 1897, 380.
- Irrigating as a means of protection from frosts, 1895, 156.
- Irrigation and cooperation, remarks, 1899, 611.
 - transportation facilities in Porto Rico, 1898, 510.
 - areas near Rocky Mountains not in need, 1897, 612.
 - as a training in self-government, 1899, 610.
 - affecting pear blight, 1895, 299.
 - protection against frost in orchards, 1897, 64.
 - California soils not in need, 1897, 432.
 - canals, losses, 1899, 596.
 - care necessary in alkali lands, 1898, 503.
 - commercial importance, 1899, 612.
 - cost of building and maintaining ditch, discussion, 1900, 511.

- Irrigation, definition of terms, 1896, 630.
 in use in West, 1897, 640.
 development of favorable sentiment, 1896, 173.
 districts of California, character of soil, 1895, 478.
 ditches, relation of grade to economy of construction, 1900, 495.
 diversified farming a feature, 1899, 610.
 "duty of water," 1896, 193.
 early measurements and adjustment of supply of water to area of land, 1900, 492.
 effect on social life, 1899, 611.
 upon location of soluble salts, 1898, 501.
 effects on alkali soils, 1895, 105.
 errors in estimates of amount of water required, 1896, 195.
 estimates of fit lands, 1898, 328.
 examination of soil to determine amount of moisture, 1900, 510.
 expenditures required on purchase of desert lands, 1898, 350.
 experiments in Michigan Agricultural College, 1895, 243.
 extensive employment in Colorado, 1896, 175.
 features peculiar to Kansas and plains regions, 1896, 172.
 for public lands, notes, 1898, 332, 333, 335, 336, 338, 339, 340, 342, 343, 344, 345, 346.
 small tobacco fields suggested, 1894, 155.
 garden, 1895, 240.
 general principles discussed, 1895, 130.
 greenhouse, 1895, 244.
 growth and need of better laws, 1899, 601.
 height to which water can be raised profitably, 1896, 181.
 in California, amount of water, etc., 1895, 480, 482, 483, 484, 485.
 Death Valley, difficulty of finding water, 1900, 487.
 Louisiana and other Southern States, notes, 1899, 39.
 relation to alkali soils, notes, 1899, 25.
 Turkestan, note, 1900, 532.
 influence upon people and country, 1899, 609.
 injury by excessive use of water, 1897, 125, 132.
 Inquiry, Office, comments on operation by Secretary, 1895, 54.
 organization and duties, 1894, 62, 525; 1895, 525.
 introduction of weed seeds, 1896, 270, 271.
 investigations by Office of Experiment Stations, 1899, 530.
 general lines, 1898, 52, 53.
 need of experts, 1899, 36.
 remarks by Secretary, 1899, 36; 1900, 65.
 lack of water in parts of Arizona, 1900, 488.
 laying out field laterals, 1900, 505.
 losses of water, 1896, 187.
 mention of investigation, 1897, 111.
 methods, climate and soil characteristics of California, article by Charles W. Irish, 1895, 475-486.
 of applying water to crops; cultivation, 1900, 507, 509.
 obtaining water, 1896, 179.
 modern, beginnings, 1899, 592.
 necessity for cultivation of Great Plains, 1896, 171.
 of underdrainage in case of excess, 1898, 504.
 need of investigation of use of water for different soils, 1898, 53.
 note on work by experiment station, 1898, 12.
 of date palm, discussion, 1900, 471.
 plantations in Africa, use of artesian wells, 1900, 461.
 orchards, 1895, 241.
 palms, 1900, 469, 472, 510.
 the garden and greenhouse, article by L. R. Taft, 1895, 233-246.
 on the Great Plains, article by Frederick H. Newell, 1896, 167-196.
 practical, article by C. T. Johnston and J. D. Stannard, 1900, 491-513.
 precautions in construction of wells and pumps, 1896, 184.
 present and future, 1899, 600-612.
 productive of small proprietors, 1899, 610.
 public supervision and control, 1899, 608.
 quantity of water per second for one man to handle, 1900, 496.
 reasons by Secretary for general study, 1899, 37.

- Irrigation, relation of fall of stream to grade of ditch, 1900, 493, 494.
 head of water to time of handling, 1900, 496.
 to cultivation of high-grade cotton, 1897, 117.
 forests, 1897, 48.
 olive culture, 1896, 377, 378.
 orange-flower growing for perfume, 1898, 387.
 wheat crop in semiarid districts, discussion, 1900, 530-533.
 remarks by Secretary on importance, 1899, 40.
 rise and future in United States, article by Elwood Mead, 1899, 591-612.
 root rot caused by excess, 1896, 249.
 salt grass as sign of water near surface, 1900, 597.
 selection of site for headgate and choice of ditch lines, 1900, 501.
 storage and application of water, 1896, 187.
 suggestion as to extent of first trial, 1896, 196.
 "top dry" of trees due to excess, 1896, 241.
 use in producing timothy, 1896, 154.
 with millets, 1898, 279.
 useful notes, 1895, 610.
 water supply on plains east of Rocky Mountains, 1896, 169, 172, 174.
 waters and soils, electrical method of determining soluble salts, 1900, 406-409.
- Isabella grape, introduction, 1899, 475.
- Island possessions, field for biological survey, 1898, 33.
 note on experiments with rubber plants, 1899, 56.
- Isonandra gutta* (rubber plant), note, 1899, 62.
- Isosoma tritici* (wheat isosoma), remedies, 1894, 574.
- Italian families in Chicago, retention of forms of food, 1898, 443.
 rye grass, adulteration of seed, 1898, 480.
 number seeds per pound, amount to sow, etc., 1894, 569.
- Italy and Spain, amount of sodium nitrate used for manurial purposes, 1895, 90.
 kinds of cheese exhibited and awards at Paris Exposition of 1900, 1900, 617.
 notes on tobacco exhibit at Paris Exposition, 1900, 159.
 pork imported from the United States in 1895, 1895, 10.
 training of grapevines on trees, 1896, 499.

J.

- Jack rabbits, excess of numbers and remedies, 1900, 300.
 study, 1894, 43.
- Jackson, President, veto of Maysville and Lexington turnpike bill, 1899, 375.
- Jacksonville, Fla., method of lawn making, 1897, 369.
- Jamaica apple, or cherimoya, injury by freezes in Florida in 1894-1895, 1895, 172.
 introduction of mongoose for destruction of rats, 1898, 93.
 orange extracts, 1898, 386.
 relation to Puerto Rican trade and conditions, 1898, 512.
- Jams, note on manufacture, 1897, 113.
- Japan clover, note on growth in south, 1897, 504.
 value for succulent forage, 1899, 624.
- import of tea plants, 1897, 195.
- introduction of rice, 1899, 63.
- methods of observing Arbor Day, 1895, 39.
- note on prospect for market for dairy products, 1898, 15.
 tobacco exhibit at Paris Exposition, 1900, 58.
- order for tobacco, note, 1899, 436.
- persimmon, introduction by William Saunders, note, 1900, 628.
 notes on introduction and cultivation, 1897, 550.
- plum, note on disease, 1898, 263.
 remarks on importation of Kiushu rice, 1900, 135.
 use in hybridization, 1899, 480.
- Japanese barnyard millet, note on use in New England and South, 1899, 30.
 foxtail millets, notes, 1898, 275.
 lawn grass as sand binder, 1894, 433.
 orange, note on crossing with common orange, 1897, 398.
- Jasmine, culture and use for perfume, 1898, 395, 396.
- Java chickens, varieties, advantages, weights, 1896, 448.
- Jefferson books, agricultural works, 1899, 496.
 Thomas, note on weather observations, 1899, 73.
- Jellies, notes on manufacture, 1897, 113.
 usefulness and extent of manufacture, 1898, 316.

- Jenks, J. W. P., study of food habits of robin, 1899, 261.
 Jenner's discovery of preventive of smallpox, 1899, 103.
 Jersey cattle, booms, remarks, 1899, 636.
 Jerusalem artichoke, crop suitable for alkali soils, 1895, 120.
 corn, adaptation to nonirrigable regions, 1897, 92.
 Jervis, John B., improvement of railroad engine, 1899, 650.
 "Jimson" weed, poisoning of flowers as measure against tobacco worms, 1898, 131.
 Johnson grass as soil binder, 1894, 435.
 suggestion for use in holding sands, 1898, 420.
 Rev. Albin, note on cattle at Yakutat, Alaska, 1898, 521.
 Samuel W., and William H. Brewer, early work for agriculture, 1899, 515.
 work in agricultural chemistry, note, 1899, 227.
 W. G., experiment for destruction of moths of tobacco worms, 1898, 131.
 recommendation for use of bran mash against cutworms, 1898, 142.
 JOHNSTON, C. T., and J. D. STANNARD, article on "Practical irrigation," 1900, 491-513.
 Joinery, use of wood, 1896, 407.
 Jones, A. N., improvement of wheat, 1899, 487.
 Judd, Orange, gift to start experiment station in Connecticut, 1899, 516.
 JUDD, SYLVESTER D., article on "Birds as weed destroyers," 1898, 221-232.
 "Four common birds of the farm and garden," 1895, 405-418.
 "The food of nestling birds," 1900, 411-436.
 study of birds, 1899, 266.
 Juice of fruits, extracting, 1898, 314.
 June beetle (white grub), remedies, 1894, 574.
 grass or bunch grass, value as a forage plant, 1895, 317.
 seed, description of seed; harvest, 1898, 482, 483.
 Juneau, notes on cultivation of vegetables, 1898, 519.
 Jungle rice, or Shama millet, notes, 1898, 279.
 Juniper, red, profitable planting; exhaustion of supply and advance in prices; uses, 1900, 146, 147, 150, 152.
 range, uses, etc., 1897, 654.
 value as post timber, 1900, 149.
 Jurisdiction, State and Federal, uncertainty, 1899, 605.
 Jus, M., French engineer, opinion as to water supply necessary for date palm, 1900, 471.
 Jute, note on publications, 1897, 234.
 quantity and value of imports, 1891-1895, 1895, 549.

K.

- Kadiak, Alaska, cattle growing, note; experiment station, 1898, 522, 523.
 Kafir corn, demonstration of value, 1897, 92.
 influence of weight of seed on earliness, 1896, 320.
 note on extent of planting; introduction, 1900, 133, 140.
 value for succulent forage, 1899, 625.
 Kainite, occurrence and chemical composition, 1896, 120.
 use as insecticide and fungicide, 1896, 134.
 Kale, use as a pot herb, 1895, 210.
 Kales, date, note, 1900, 480.
 Kalm, Pehr, note on account of pea weevil, 1898, 234.
 Kansas, attitude of people toward irrigation, 1896, 173.
 average yield of corn, 1894, 158.
 character of public lands, their water supply and irrigation, 1898, 345.
 City Veterinary College, report on rabies, 1900, 214.
 conditions of agriculture on Western plains, 1896, 170.
 Experiment Station, cooperation with Department, 1897, 32.
 note on introduction of new crops, 1900, 140.
 test of Sanwa millet, 1898, 281.
 fertility of the soil in the western part, 1896, 171.
 interesting letter on tree planting, 1899, 428.
 note on cooperative work in tree planting, 1897, 157.
 notes on success of catalpa and osage-orange plantations, 1900, 146, 149.
 public lands, 1898, 326, 330.
 rainfall available for crops, 1894, 157.
 report on rabies, 1900, 216.
 State Agricultural College, organization and work, 1898, 69.

- Kearney, Theodore, president of California Raisin Growers' Association, 1898, 560.
- Kedzie, Professor, mixture of arsenic and soda as insecticide, 1899, 149.
- KEFFER, CHAS. A., article on "Tree planting in waste places on the farm," 1896, 323-340. "Tree planting in the Western Plains," 1895, 341-360.
- Kei apple, note on introduction in Arizona, 1900, 138.
- Kenai, Alaska, note on growing vegetables; stock raising, 1898, 519, 521.
- Kentucky blue-grass seed, description; 1898, 482.
 percentage of germination, 1898, 479.
 efforts in road construction, 1895, 487.
 Experiment Station, observations on tobacco worms, 1898, 121, 130, 137.
 extermination of woolly mullein, 1897, 96.
 note on extension of tobacco industry, 1899, 430.
 raising of Angora goats, 1898, 434.
 notes on tobacco soils, 1897, 127.
 production of hemp, 1899, 64.
 tobaccos, notes on trade and Paris Exposition exhibit, 1900, 164.
- Kerosene and milk emulsion formula, 1895, 585.
 soap emulsion formula, 1895, 584.
 early use against insects, 1899, 150.
 emulsions as insecticides, remarks, 1899, 149.
 standard remedy for plant lice, etc., 1898, 260.
 extensive use against insects in California, 1896, 232.
 for use against scale insects, preparation, 1900, 260, 261.
 preparation and use as insecticide, 1894, 575.
 use against bean ladybird, 1898, 252.
 insect enemies of tobacco, 1898, 125.
 in insecticides, 1896, 621.
 preparation and use as insecticide, 1898, 660.
 quantity and cost for spraying, 1896, 232.
 use against ambrosia beetles, 1896, 430.
 cigarette beetles, 1898, 147.
 as insecticide, 1897, 638.
- KEY, SOTHORON, and GILBERT H. HICKS, article on "Additional notes on seed testing," 1897, 441-452.
- Kharkov wheat production; fitness for growing winter wheat in semiarid districts, 1900, 531, 535.
- Khiva winter muskmelon, note on introduction in Arizona, 1900, 138.
- Kidney vetch, common, number seeds per pound, amount to sow, etc., 1894, 570.
- Kieffer pear, note on origin, 1898, 172.
 tendency to overloading with fruit; picking and ripening, 1900, 384, 393.
 pears, extent and use of crop, notes, 1900, 392.
- Kiernan, report on trip with cattle after dipping, 1898, 464.
- Kieserite, composition and use as source of potash, 1896, 122.
- Kilborne, F. L., experiments in Texas fever investigation, 1899, 131.
- King, F. H., investigation of birds of Wisconsin, 1899, 263.
- Kingbird, food of nestlings, 1900, 426.
- Kingfishers, food of nestlings, 1900, 428.
- Kite, bridling for scientific investigation, 1898, 210.
 method of flying for scientific observations, 1898, 212.
 modern, construction, 1898, 207.
 notes on development in Weather Bureau, 1898, 82.
 observations at Pierre, S. Dak., revelation regarding hot waves, note, 1900, 335.
 scientific, with reel, photographs and description, 1898, 202-206.
- Kites, four species, notes, 1894, 218.
 in exploration of upper air, article by C. F. Marvin, 1898, 201-212.
 notes on use in weather service, 1899, 91.
 study of the upper air, 1897, 31.
 use in aerial observations, 1898, 20.
- Kiushu rice, notice of introduction, 1899, 63. (*See also* Rice.)
- Kleberg, R. J., use of dipping against Texas fever, 1898, 455.
- Kliyogg (Rural Socrates), suggestions on fertilizers and manures, 1899, 206.
- Klondike cotton, fixation as variety of cotton, 1898, 365.
- Knapp, Dr. S. A., views on Porto Rico; introduction of Kiushu rice from Japan, 1900, 63, 135.
- Knapsack pump, notes on first use and on forms, 1899, 196.
- Kniffin system of grape training, treatment by years, 1896, 530.
- Knight, Andrew, note on work in crossing plants, 1898, 167.
 Thomas Andrew, plant breeding, note, 1899, 469.

- Knot-root grass as soil binder, 1894, 434.
 Knoxville, Tenn., grass station, experiment with Sanwa millet, 1898, 281.
 note on relation of Department to grass garden, 1898, 39.
 Koch, investigation of anthrax, 1899, 118.
 Kochia (graybush), notes, 1898, 544.
 pyramidata, note, 1898, 538.
 Koebele, Albert, note on introduction of ladybird, enemy of fluted scale, 1899, 154.
 Prof. A., statement as to plant diseases, 1898, 574.
Koeleria cristata (June grass), value as a forage plant, analysis, 1895, 317.
 Kohlmeise, or great titmouse, distribution and injuries, 1898, 104.
 Kolbe, H., investigations as to salicylic acid, notes, 1900, 557.
 Krugite, composition and quantity known, 1896, 122.

L.

- La Beauce, study of enzootic disease by Delafond, 1899, 115.
 Labels and notes in testing varieties of vegetables, 1900, 548.
 Lablab, or Madagascar bean, note on test for introduction, 1900, 143.
 Labor, animal and human, on farm, reduction of cost, 1897, 604.
 by students at agricultural colleges, 1898, 66, 68, 69, 70, 71; notes, 1900, 674-686.
 cheap, use in irrigation in Egypt and India, 1896, 181.
 cost as obstacle in establishing perfumery industry, 1898, 396.
 conditions in Hawaiian Islands, 1898, 578.
 convict, use in road construction, 1895, 491.
 for agricultural uses in Porto Rico, 1898, 507.
 hand and machine, comparison, 1897, 599-603.
 Hawaiian Islands, changes in supply from animals, 1898, 575.
 in Cuba, character, 1898, 671.
 on English farms, notes, 1898, 585, 586, 587, 588.
 problem of supply for raising goats, 1898, 426.
 requisites for flax culture, 1897, 229.
 saving machinery, use in tea culture, note, 1897, 195.
 United States Department, investigation of processes, 1897, 599.
 values, confusion for different countries, note, 1898, 581.
 Laboratories and experiment stations in French agricultural instruction, 1900, 129.
 Laboratory buildings, new, remarks by Secretary, 1899, 65; 1900, 27, 76.
 for chemist, new, note, 1898, 30.
 tests, determination of value of road-building material, 1900, 355.
 Laborers and wages in sugar industry in Hawaiian Islands, 1898, 580.
 around Leicester, England, wages, 1898, 584.
 farm, earnings in 1890, 1897, 590.
 Laboring people, dietaries, 1894, 376.
 Labrador tea, substitute for tea in Alaska, 1897, 565.
 Lacey Act, for regulation of introduction of foreign animals, remarks, 1900, 46.
 Lace-winged flies, larvæ as enemy of citrus scale insects, 1900, 253.
Lachnosterna spp. (white grubs), remedies, 1894, 574.
Lactuca scariola (prickly lettuce), method and extent of distribution, 1896, 266, 278, 280.
 Ladd, E. F., notice of evil effects of feeding millet hay, 1900, 308.
 Ladybird, bean, description, distribution, and remedies, 1898, 251.
 enemies of scale insects, relation to heat and pruning, 1896, 218.
 (*Novius cardinalis*) usefulness against scale insects, 1899, 154.
 (*Vedalia*) *cardinalis*, notes on extermination of fluted scale, 1900, 279, 281, 282.
 scale-insect enemy, 1894, 253.
 spotted, enemy of asparagus beetle, 1896, 346.
 Ladybirds as enemies of citrus scale insects, remarks, 1900, 252, 274.
 disappearance of imported species, 1896, 224.
 importation against scale insects, 1896, 223.
 predaceous, preying on eggs of bean ladybird, 1898, 252.
 time and conditions for effective work, 1896, 224.
 use against white scale, 1896, 222.
 Lafosse, Professor, inoculation of cow with virus of grease in horse, 1899, 106.
 teaching regarding glanders, 1899, 96.
 Lake charts for vessel masters in extension of weather service, 1898, 21.
 regions, note on indigenous fruits, 1897, 307.
 Lakes (Great), first storm warning, 1899, 81.

- Lamb's quarters, description and use as a pot herb, 1895, 210.
 Lambs, use of skim milk, 1897, 519.
 Land donated and institutions benefited under the Morrill Act, 1899, 168.
 in Alaska, note on cost of clearing, 1900, 61.
 laws for public lands, discussion, 1898, 349-354.
 Office, General, part in management of forest reserves, 1899, 297.
 ownership in Porto Rico, character, 1898, 509.
 public, relation to progress of agriculture, 1899, 313.
 tobacco, mechanical analyses of subsoils, 1894, 146, 148, 152.
 value on Atlantic seaboard, 1894, 131.
 Land-grant colleges and experiment stations, 1897, 136.
 remarks by Secretary on register of graduates, 1899, 68.
 statistics, 1894, 95; 1899, 185.
 institutions, note on chief function during early existence, 1899, 169.
 Lands, alkali; origin, value, and reclamation, article by E. W. Hilgard, 1895, 103.
 soluble salts and effects of irrigation, 1898, 503.
 bills for granting to colleges, 1894, 95.
 fertility on the Great Plains, Montana to Texas, 1896, 167.
 in West, injury by too much irrigation, 1897, 125.
 methods of lifting water for irrigation of levels, 1896, 179.
 public, appropriations from sales for building roads, 1899, 374.
 fit for productive uses, 1898, 327.
 statistics as to occupation, grants, etc., 1896, 558.
 truck. (*See* Truck lands.)
 unimproved, extent useful for goat raising, 1898, 437.
 vacant, reserved, and appropriated, table of areas by States, 1898, 326.
 worn-out, improvement, remarks, 1899, 234.
 Langshan chickens, descriptions, advantages, varieties, weights, 1896, 456.
 LANGWORTHY, C. F., article on "The value of potatoes as food," 1900, 337-348.
Lanius spp. (shrikes), relation to orchard; food of nestlings, 1900, 302, 416.
 Lankester Ray, remark on production of new races of plants, 1898, 357.
 Lapham, L. A., work for weather forecasts for Great Lakes, 1899, 77.
 Larch, Western, range, uses, etc., 1897, 653.
 Lard, American, in pails, short weight, 1894, 17.
 wholesale prices in London, 1894 and 1895, 1895, 18.
 and tallow, use in making perfumery, 1898, 380.
 antidote for poison of American hemlock, 1896, 143.
 exports to United Kingdom, 1894, 17.
 imports into United Kingdom, 1893-1895, 1895, 17.
 Lark finch, food, 1898, 228.
 meadow, notes on food, 1895, 419; 1898, 230.
 Larks, horned, damage to newly sown wheat, 1897, 352.
 eating of weed seeds, 1898, 230.
 Larkspurs, species, poisonous quality, symptoms of poisoning and remedies, 1900, 314-318.
Larus atricilla (gull), note, 1899, 270.
 occidentalis (gull), use of eggs, 1899, 271.
 spp., food of nestlings, 1900, 434.
 Larva of Blastophaga (fig insect), remarks, 1900, 102.
 Laterals, field, in irrigation, laying out, 1900, 505.
 Laurel, danger to animals, 1897, 96.
 swamp, note on availability for perfume, 1898, 396.
 Lavender, species in use for oils, 1898, 388.
 Lavoisier, early statement of true theory of plant nutrition, 1899, 220.
 note on work for science of chemistry, 1899, 203.
 suggestion for weather service in France, 1899, 77.
 Law against English sparrows in Western Australia, 1898, 100.
 mongoose in Hawaiian Islands, 1898, 95.
 control of use of chemicals in wine and beer, notes, 1900, 556.
 for agricultural education in Missouri, note, 1899, 69.
 meat inspection, note on insufficiency, 1900, 15.
 prevention of spread of noxious animals and birds (Lacey Act), remarks, 1900, 46.
 homestead, lack of adaptation to arid region, 1899, 603.
 protecting rabbits, note, 1900, 300.
 recommendation for restriction of introduction of exotic animals, 1898, 110.
 road, of Massachusetts, miscellaneous provisions, 1894, 506, 509.
 standards for dairy products, 1898, 666.

- Lawes, Sir John B., evidence as to value of condimental cattle foods, 1897, 425.
- Lawn grass, Japanese, as soil binder, 1894, 433.
 grasses, selection of varieties, 1897, 357, 360.
 making, amount of seed and manner of seeding, 1897, 362, 364.
 preparation of land, 1897, 356.
 mixtures, note on frauds and impurities, 1898, 481.
 mowing, use of turf, methods of removing weeds, 1897, 365.
- Lawns and lawn making, article by F. Lamson-Scribner, 1897, 355-372.
 notes, 1899, 354.
- Laws against forest fires, synopsis, 1897, 159.
 Texas fever, early enactments, 1899, 126.
 better, for irrigation, need, 1899, 601.
 bounty on birds, list for century, 1899, 280.
 early, protecting forest-bearing land, 1899, 293, 294.
 for benefit of agriculture, work of experiment stations, 1899, 546.
 protection of birds, 1899, 282-287.
 public lands, discussion, 1898, 349-354.
 need of study in irrigated regions, 1898, 53.
 on road building, notes, 1897, 373, 374.
 organic, establishing the weather service, 1899, 71.
 patent, influence on agricultural machinery, 1899, 319.
 State, against adulteration, 1900, 24.
 water, complications from lack of uniformity, 1899, 605.
- Lawton blackberry, introduction, 1899, 481.
- Le Baron, William, note on work for economic entomology, 1899, 141.
- Lead acetate, use as antidote for poison ivy, 1896, 141.
 arsenate, preparation and use as insecticide, 1898, 659; 1899, 149.
- Leaf beetle, description, distribution, life history, and remedies, 1898, 253.
 imported elm, 1894, 573; 1895, 363.
 blight of cherry, treatment, 1894, 577.
 pear, treatment, 1894, 578.
 tree, discussion, 1900, 388.
 susceptibility of certain fruits, 1897, 109.
 blights of potato in 1898, notes, 1898, 652.
- feeders, tobacco, descriptions, injuries, and remedies, 1898, 142-144.
- mildew of grape, experiment, 1897, 185.
- miner, tobacco; description; injuries to tobacco; remedies, 1898, 137-140.
- rust of plum, prune, and peach, treatment, 1894, 578.
- spot disease of violets, prevention. 1898, 264.
 of quince, treatment, 1894, 578.
- tobacco, average farm prices, December 1, 1886 to 1895, 1895, 532.
 efforts to improve, notes from Paris Exposition, 1900, 165.
 exported from the United States, statistics, 1899, 439.
 injury by cigarette beetles, 1898, 144, 145.
- roller, bean, notes, 1898, 259.
- Leaf-folder, grape, 1895, 398.
- Leaf-hopper, grapevine, remedies, 1894, 573; 1895, 400.
- Leaming, S. S., early improvement of (Indian) corn, 1899, 486.
- Leather beetle, injury to tobacco, 1898, 148.
 Dr., experiment with soda salt, 1898, 536.
- Leaves, development of thickness by growth near the sea, 1896, 98.
 effect upon root growth of destruction in pruning, 1898, 155.
 fungous diseases, treatment, 1896, 254.
 manner of injury by excess of moisture, 1896, 245.
- Lecanium, New York plum, notes, 1894, 272.
oleæ (black scale), injury to olive tree, 1896, 389.
 peach, notes, 1894, 270.
 spp., (scale insects), descriptions and remedies, 1900, 72, 275, 276.
- Leckenby, A. B., statement as to lyme grass as sand binder, 1898, 419.
- "Leef" date palm fiber, use as packing in shipping date offshoots, notes, 1900, 461, 462.
- Leghorn chickens, age for pullets laying and number of eggs, 1896, 459.
 description of cock and hen, 1896, 460.
 difficulty in breeding; mating, 1896, 461.
 origin, advantages, varieties, and descriptions, 1896, 458.
 rank as producers of eggs, 1896, 458.
 standard varieties, 1896, 461.

- Legislation against introduction of injuries, animals, need, 1898, 106.
 bounty, history in the United States, 1896, 57.
 California, action against scale insects, 1896, 223.
 changes in printing law, suggestion of Secretary, 1896, 40.
 early, against Texas fever, 1899, 125.
 for control of slaughterhouses, 1896, 164.
 safety from plant poisons, 1896, 141.
 suppression of forest fires, 1899, 300.
 in this country on feeding stuffs, 1898, 427.
 need for export inspection of butter, 1899, 52.
 of protection of olive industry in United States, 1896, 373.
 note on general inspection of live stock, 1897, 248.
 on water rights, need, 1899, 37.
 recommendation as to payment of cost of inspection, 1896, 23.
 regarding food preservatives, need, 1900, 554.
 road, note, 1899, 41.
- Legumes, deep-rooted, mechanical effect on soil, 1897, 492.
 notes on introduction of new varieties, 1900, 140, 143.
 other, and clover, value for succulent forage, 1899, 621.
- Leguminous cropping, necessity in West, note, 1900, 539.
 crops, early recognition of value to soil, 1899, 217.
 some disadvantages, 1897, 504.
 forage crops, article by Jared G. Smith, 1897, 487-508.
 plants, native, note on use, 1899, 29.
 plants, note on early attention, 1899, 348.
 proposed use in fertilizing soil for dates, 1900, 474.
 study in grass garden, 1898, 39.
 supply of nitrogenous food by bacteria, 1899, 246.
 use in supplying nitrogen, 1897, 299.
- Lemon and orange trees, varieties needed, 1897, 415.
 extraction of oil for perfumery, 1898, 379.
 preference of spraying to gassing for scale insects, 1900, 255.
 silver mite and rust mite of orange, discussion, 1900, 285.
 stock, use in orange propagation, 1896, 476.
 usefulness for perfumery, 1898, 385.
- Lemons and oranges, making thornless by selection, 1898, 376.
 estimate of losses in Florida by disease, 1897, 103.
 limes, and oranges, and products, imports, 1897, 321, 323, 324.
- Lentil weevil, introduction in United States, 1898, 248.
- Lepidoptera as enemies of scale insects, note, 1900, 253.
- Lesser migratory locust, remedies, 1894, 573.
- Lettuce, note on effect of selection on heading, 1898, 372.
 testing of greenhouse varieties, notes, 1900, 546.
 varieties on trial grounds of Department, note, 1899, 567.
 water, injury by freezes in Florida in 1894-1895, 1895, 173.
- Leucania unipuncta* (army worm), remedies, 1894, 572.
- Leucarctia acroea* (salt marsh caterpillar), notes, 1898, 258.
- Leveling device for constructing irrigating ditch, 1900, 497.
- Leverrier, plan for weather reports in France, 1899, 77.
- Libraries, agricultural, development, article by Charles H. Greathouse, 1899, 491-512.
 of United States, list, 1899, 757.
 permanent, suggestion, 1899, 508-511.
 size, 1899, 498.
 slow growth, 1899, 497.
 distribution of publications, 1897, 223.
 general, agriculture, 1899, 495.
 private, agricultural works, 1899, 496.
 that receive Department publications, 1897, 206.
- Library, contributions to agricultural literature, usefulness, 1897, 222, 223.
 librarian and duties, publications, 1898, 596, 607; 1899, 670, 683; 1900, 636, 683, 694.
 of agricultural colleges, notes, 1898, 65, 68.
 Congress, agriculture, 1899, 506.
 Department, review of work by the Secretary, 1894, 61; 1898, 14; 1899, 44; 1900, 72.
 Weather Bureau, notes on growth and contents, 1899, 87.
 the, review of work, by W. P. Cutter, librarian, 1897, 220-224.

- Lice, plant damage to tobacco, 1898, 144.
 importation in nursery stock, 1897, 537.
 notes on injuries, 1898, 259.
 relation of ants and woodpeckers, 1900, 293.
- License and tax of dogs as measure for prevention of rabies, 1900, 242.
- Liebig, article in Patent Office Report of 1845, remarks, 1899, 221.
 era in scientific agriculture, 1899, 218.
 note on error as to carbonates in ash of plants, 1899, 222.
- Liebig's theory of plant growth, 1899, 337.
- Life zones and crop zones, note on study by Biological Survey, 1898, 32.
 Arctic, etc., descriptions, 1894, 210-211.
 correlation, 1894, 207.
 note on mapping on the Pacific Coast, 1899, 16.
 seven, of North America, 1894, 210.
- Light conditions for trees, 1894, 464.
 dependence of plant habits and variation, 1896, 96.
 effect on activity of soil ferments, 1895, 76.
 wood production, 1894, 496.
 importance in greenhouses, 1895, 252.
- Lightning, loss of life and property, remarks, 1899, 13.
 losses to farm property, 1898, 21, 85.
 procedure in case of apparent death, 1894, 533.
- Lima beans, evolution of varieties, 1899, 567.
- Limax campestris* (slug), damage to plant beds of tobacco, 1898, 144.
- Lime and wood ashes, action upon nitrogen in humus, 1895, 134.
 application to soil, 1895, 77; 1897, 302; 1900, 409.
 as fertilizer for red clover, 1897, 493.
 bisulphide, use as insecticide, 1897, 640; 1898, 662.
 casein, notes on manufacture and use, 1897, 523.
 chloride, use in disinfecting in cutting out pear blight, 1900, 391.
 for oranges, 1894, 198.
 frost resistant, note on introduction in Arizona, 1900, 138.
 necessity for fertile soil, 1895, 77; 1897, 302.
 reason for benefit by application to soil, 1900, 409.
 salt, and sulphur wash, use against San Jose scale; formula, 1896, 234.
 use as an adjunct of potash as fertilizer, 1896, 126.
 varieties useful for perfumery, 1898, 385.
 wash, note on use for pear diseases, 1897, 185.
- Lime-and-sulphur dip for sheep scab, composition, 1899, 453.
- Limes, lemons, and oranges, and products, imports, 1897, 323, 324.
 study in Department of diseases, 1897, 110.
- Limestone soil, suitable variety of grapes, 1896, 303.
- Limestones, qualities for road building, 1900, 352, 355.
- Lincoln, President, conference regarding Gettysburg Cemetery, 1900, 626.
- Linde, Prof. Carl, introduction of ammonia-compression refrigerating machine, 1900, 567.
- LINDSEY, J. B., article on "The feeding value of corn stover," 1896, 353-360.
- Linnaeus, remark on origin of weevil, 1898, 243.
- Linnet, California, destruction of figs, 1900, 93.
 green, injuries in New Zealand, 1898, 106.
- Linseed cake, note on value according to Davy, 1899, 211.
 importance of nitrogenous by-product for dairy cow, 1899, 47.
 oil, price per gallon, 1895, 204.
- Lint, point of selection in improvement of cotton, 1898, 360.
- Linum usitatissimum* (flax), for producing oil, 1895, 188.
- Lippia (Aloysia) citriodora*, extraction of oil for perfume, 1898, 388.
- Liquid manures, notes by Kliyogg on collection and use, 1899, 206, 207.
- Liquors, coffee, and tea consumption, 1895, 552; 1896, 595; 1897, 754; 1898, 723.
- Lissorhoptrus simplex* (rice water weevil), remedies, 1894, 574.
- Little Dutch and Zimmer Spanish tobaccos at Paris Exposition, remarks, 1900, 163.
 tobacco, note, 1899, 437.
 peach disease, 1898, 652; 1899, 18.
- Live animals, British imports, statistics, 1893-1896, 1896, 30.
 demand in British markets, 1896, 25.
 hogs, wholesale prices in leading cities, 1899, 814.
 stock and dressed meats, freight rates Chicago to New York, 1896, 598; 1897, 757; 1898, 725; 1899, 845; 1900, 838.

- Live Stock Association, National, officers, 1898, 610; 1899, 688; 1900, 643.
 commissioners, Illinois experiments against ticks, 1898, 465.
 diseased, number discovered, 1894, 69.
 exports. (See Exports.)
 for export, statistics of inspection, 1900, 17.
 imports. (See Imports.)
 improving, work of breeder, article by John Clay, jr., 1899, 627-642.
 on English farms, notes, 1898, 585.
 farms, value, 1897, 262.
 regulation for control at slaughterhouses, 1896, 164.
 room for judging at Ohio State University, 1898, 77.
 sanitary boards, interstate association, meeting, 1898, 469-470.
 tree planting as means to secure winter runways, 1896, 324.
- Live-forever, distribution by farm machinery, 1896, 274.
- Liverpool, port charges on cotton; prices, 1897, 594, 596.
 price of beef and mutton, wholesale, 1895, 24.
- Livingston, A. W., notes on improvement of tomato, 1898, 356, 365, 370.
- Loading of truck produce, method, 1900, 442.
- Lockjaw (tetanus), note on preparation of serum for prevention, 1900, 21.
- Locoism, plant-poisoning disease, note, 1900, 308.
- Locomotive boiler, problem of size and cheapening of transportation, 1899, 652.
 building and early railroads, 1899, 646.
 need, discussion, 1899, 645.
 of 1900, improvements over older forms, 1899, 650.
- Locomotives, wood-burning, relation to freight rates, 1899, 659.
- Locust, black, tree suitable for alkali soils, 1895, 121.
 usefulness for fence posts; localities for planting, 1900, 149, 151.
 California, devastating, 1894, 573.
 lesser migratory, red-legged, and Rocky Mountain, remedies, 1894, 573.
 Rocky Mountain, purpose of U. S. Entomological Commission, 1899, 141.
 tree, range, uses, etc., 1897, 661.
- Locusts, note on destruction by fungous disease, 1900, 27.
 profit of planting, 1899, 427.
- LODEMAN, E. G., article on "Pruning and training of grapes," 1896, 499-542.
 suggestions of spraying and other remedies for insects, etc., 1899, 147, 148, 149.
- Loggerhead shrike, habits and relation to fruit growing, 1900, 302.
- Logging methods, thriftless, some of causes in North Carolina and Tennessee, 1900, 361.
 notes on time, methods, dangers to logs, and on marketing, 1896, 417.
- Logs, ties, etc., market at Oakland, N. J., 1898, 306.
- Lolium italicum* and *L. perenne* (rye grasses), number of seeds per pound, amount to sow, etc., 1894, 569.
perenne, notes on seed, 1898, 490.
- London butter market, 1897, 13, 15, 16.
 Central Meat Market, average wholesale prices of dressed meats, 1895, 23.
 muzzling of dogs for suppression of rabies, 1900, 245.
 purple, preparation and use as insecticide, 1894, 574; 1897, 637; 1898, 659; 1899, 149.
 wholesale prices of dressed meats, 1896, 25.
- Long leaf (spike) disease of the pineapple, 1895, 281.
 scale (*Mytilaspis gloveri*), origin and history, distribution, description, parasites and treatment, 1900, 265.
- Long-eared owl, notes, 1894, 224.
- Longleaf pine, note on strength, 1897, 154.
- Long-leafed sand grass as sand binder, 1894, 433.
 spinifex, notes, 1894, 432.
- Loomis, note on work as meteorologist, 1899, 75.
- Loon, black-throated, food of nestling, 1900, 433.
- Loose smut of oats, 1894, 412.
 wheat, hot-water treatment, 1894, 417.
- Lorain, John, early advocacy of use of Guinea corn, or sorghum, 1899, 625.
- Los Angeles, early center of grape culture and wine making, 1898, 551.
- Losses in growing seeds, note, 1899, 563.
- Lotus corniculatus* (bird's foot trefoil), number of seeds per pound, amount to sow, etc., 1894, 570.
- Louisiana Agricultural College, report on rabies, 1900, 216.
 and Hawaii, comparison of wages, 1898, 581.

- Louisiana cattle, greater virulence of Texas fever, 1898, 468.
 commercial production of oranges, 1897, 321.
 Experiment Station, change of management, 1899, 32.
 grass, notes, 1894, 423.
 introduction of Kiushu rice, 1900, 135.
 note on species of grass, 1897, 173.
 possibility of rose farming, 1898, 382.
 prices of plantation labor, 1898, 580.
 production of rice, remarks, 1899, 63.
 public lands, 1898, 326, 330.
 varieties of wheat, oats, and corn, 1897, 116.
 weather service for sugar interests, 1897, 30.
- Louisville, Ky., notes on tornado, 1898, 533.
- Louse, bark, oyster shell, notes, 1894, 254.
 scurfy, 1894, 259.
- Lovage seed, use in producing oil, 1895, 204.
- Low or storm center, relation of wind, 1897, 73.
 pressure and high pressure areas, relations of weather, 1900, 112.
- Loy, Dr., note on account of origin of cowpox, 1899, 105.
- Lucern hay, potash, withdrawal from soil in cultivation, 1896, 115.
 sand, note on value, 1900, 140.
 seed, effect of different temperatures on germination, 1895, 178.
- Lumber, factors governing prices, 1896, 414.
 necessity of proper storage, 1896, 418.
 prices in Chicago in 1896, 1896, 415.
 purposes, note on growing of timber, 1900, 151.
 —timber—wood, notes on quality, measurement, etc., 1896, 628.
 useful notes, 1895, 590.
- Lumbering, conservative, discussion, 1899, 419.
 taxes; cooperation of Division of Forestry, 1898, 183, 186.
 in Southern Appalachians, 1900, 360, 367.
 introduction of Northern methods among Southern hard woods, note, 361.
- Lumbermen, attitude toward forestry, 1898, 181.
 farmers and others, practical assistance in forestry, 1899, 302.
 in South, instance of forestry, 1899, 421.
 lack of knowledge of best methods in forestry, 1898, 185.
 note on cooperation in forestry investigations, note, 1899, 21.
 practical assistance in handling forest lands, 1898, 45.
- Lung and chlorotic diseases, use of whey, 1897, 528.
- Lupines soils; poison injurious to stock, 1897, 504.
- Luxembourg, dairy exhibit at Paris Exposition of 1900, and awards, 1900, 612.
- Lycoperdon, poisonous fungus, description, etc., 1897, 469.
- Lye, dangers from use in cleaning, 1896, 439.
 objection for use against scale insects, 1900, 260.
- Lyme grass, upright sea, notes, 1894, 428.
 yellow, description; usefulness as sand binder 1898, 418.
 grasses, remarks on varieties and uses, 1899, 356.
- Lyons Veterinary School, inoculation of sheep with rabies, 1900, 223.
- Lysol, use as a substitute for carbolic acid, 1896, 257.
- Lyssaphobia, note on nature and mistaking of disease, 1900, 226.

M.

- Macadam and Telford, introduction of broken-stone roads, 1899, 372.
 foundation for road, 1898, 323.
 John L., notes on views as to road building, 1898, 295, 392.
 plan of road building, early example, 1899, 371.
 roads, selection of materials, article by Logan Waller Page, 1900, 349-356.
- Macaroni factories (American), need of true macaroni flour, 1900, 537.
 success of manufacture in United States, 1896, 493.
 wheat, production in semiarid Russia; fitness for semiarid regions, 1900, 531, 536.
 wheats, adaptation of Southern States to growth, 1896, 492.
- Maceration for extraction of oils for perfumery, 1898, 379.
- Machine and hand labor, comparisons, 1897, 599-603.
 building, kinds of wood, 1896, 413.
- Machinery, agricultural, early problem of transportation, 1899, 376.
 proof of value, 1897, 264.

- Machinery and implements on farm, use of wood, 1896, 410.
 economic results of use, 1899, 331.
 for manufacture of green tea, problem of invention, 1900, 44.
 seeding raisins, note, 1897, 313.
 labor-saving, lack in flax culture, 1897, 480.
 outfit for extraction of olive oil, 1896, 385.
 relation to increase in production of cotton, 1897, 597.
 used in road making, 1897, 377.
- Machines and implements, agricultural, progress, 1899, 314.
 orchard spraying, description, 1896, 73.
 remarkable effect on agricultural production, 1897, 604.
 use of steam and hand, in spraying orchards, 1896, 70.
 value in shredding corn stover (fodder), 1896, 357.
- Macrobasis unicolor* (blister beetle), notes, 1898, 249.
 remedies, 1894, 573.
- Macroductylus subspinosus* (rose chafer), description and distribution, 1895, 396.
 remedies, 1894, 574.
- Macrosporium tabacinum*, injury to tobacco, 1898, 124.
- Madagascar pear, or lablab, note on, test for introduction, 1900, 143.
- Madia sativa*, cultivation and use of seed in producing oil, 1895, 195.
- Madison, James, notes on weather observations and on agriculture, 1899, 73, 163.
- Magendie, inoculation of dog with rabies virus from man, 1900, 223.
- Magnolia, note on species useful for perfume, 1898, 396.
 range, uses, etc., 1897, 662.
- Mail boxes, rural, problem of protection, 1900, 521.
 matter, pieces franked, 1894, 52.
- Mails, foreign and domestic regulations of United States, 1898, 674.
 rural, free delivery, article by C. H. Greathouse, 1900, 513-528.
 method of procedure in starting new routes, 1900, 527.
 note on promotion of free delivery, 1899, 41.
- Maine, available pasturage in State for goats, 1898, 425.
 law for control of feeding stuffs, 1897, 427.
 State college, study of milk as human food, 1897, 512.
- Maize. (See Corn.)
- Mal di gomma, resistance of sour orange, 1897, 417.
- Malaga grapes, introduction into California, 1897, 313.
- Malaria, human, analogy of Texas fever protozoan organism to parasite, 1899, 133.
- Malarial fevers, prevention, notes, 1897, 192.
- Malignant pustule. (See Anthrax.)
- Mallei, bacillus*, note, 1899, 100.
- Mallein, distribution for testing horses for glanders, 1900, 19.
 note on distribution, 1897, 27.
 test for glanders, discussion, 1899, 102.
- Mallow, round-leaved, suggested use as a pot herb, 1895, 214.
- Malt liquors, consumption per capita, 1892-1896, 1896, 595.
- Malta goats, value for dairy purposes, 1898, 432.
- Mamestra legitima*, injury to tobacco; *M. trifolii* (cutworm), note, 1898, 142, 257.
- Mammalogy and Ornithology Division, organization and duties, 1894, 524; 1895, 524.
- Mammals and birds, economic relations, 1897, 33.
 food inquiry, 1894, 43.
 studies of food habits, 1897, 121.
 study by Biological Survey, 1898, 33.
 orders represented among noxious animals, 1898, 90.
- Mamme (figs), relation to hibernation of Blastophagas, 1900, 88.
- Mammoni (figs), note on relation to hibernation of Blastophagas, 1900, 88.
- Mammoth Spring, Ark., dipping for Texas fever, 1898, 28, 469.
- Man, communicability of rabies, 1900, 225.
 filtration of tuberculin for use, 1898, 115.
 method of injecting tuberculin, 1898, 117.
 note on relation of tuberculosis in cattle to disease, 1898, 119.
- Mandarin oranges, varieties cultivated in Florida, 1896, 472.
- Mangel-wurzel, crop suitable for alkali soils, 1895, 120.
- Mangifera indica* (mango), injury by freezes in Florida in 1894-1895, 1895, 172.
- Mango and mangrove, injury by freezes in Florida in 1894-1895, 1895, 172.
 note on introduction into United States, 1897, 200.
- Mangrove, growth of roots in air in marsh lands, 1896, 95.
- Manihot glaziovii* (rubber plant), note, 1899, 62.
- Manila (fiber), quantity and value of imports, 1891-1895, 1895, 549. (See Philippine Islands.)

- Manning, Robert, collection of Massachusetts Horticultural Society Library, 1899, 503.
 "Manual labor" schools, remarks, 1899, 163.
 Manufacture of tea, means, note, 1899, 59.
 Manufactures, value of exports, 1894, 65.
 Manure, amount and value produced by different animals, 1894, 572. (*See also*
 Fertilizer.)
 and coarse straw, effect of application to soil, 1899, 742.
 application to increase humates in the soil, 1895, 137.
 barnyard, and green, means of maintaining humus of the soil, 1895, 139.
 discussion, 1897, 687-689.
 preservatives, 1896, 616.
 value for various farm animals, 1896, 616.
 enumeration of causes of losses, 1897, 296.
 for corn, early use of fish, 1899, 209.
 germs of disease, 1897, 301.
 green, use of Canadian field peas, 1895, 232.
 notes and tables, 1895, 570.
 plan for storage on farm, 1897, 297.
 stable, application in pear orchard; note and caution, 1900, 379, 380.
 stall, preservation from loss by weather, 1896, 129.
 top dressing for timothy meadow, 1896, 151.
 use in seeding for timothy meadow, 1896, 149.
 value of beet crowns and leaves, 1898, 214.
 Manures and fertilizers, early knowledge, 1899, 206-213.
 animal, principal substances according to Davy, 1899, 211.
 farm, analyses, 1895, 570.
 views of Liebig, 1899, 222.
 Manuring for small-fruit culture, 1895, 285.
 method for experiment, 1897, 302.
 on English farms. notes, 1898, 586, 587, 588.
 Map, daily weather, use in foretelling frosts, 1895, 146.
 weather, description, 1895, 147.
 early suggestions, 1899, 76.
 note on distribution, 1899, 85.
 Maple, large-leafed, tree suitable for alkali soils, 1895, 121.
 silver, growth on the Western plains, 1895, 346.
 utility on the Western plains, 1895, 344.
 Maples, ashes, elms, and other trees, uses, 1897, 664.
 note on value for planting, 1900, 152.
 Maps by Biological Survey, note on demand, 1898, 33.
 colored, of Biological Survey, value to farmer, 1897, 119.
 distribution by Weather Bureau, 1897, 27.
 of soils, remarks, 1899, 344.
 Marigold, marsh, use as a pot herb, 1895, 210.
 Marjoram, sweet, suggestion for trial in United States, 1898, 391.
 Market, British, relations of Denmark and United States, remarks of Secretary,
 1899, 47.
 butter, test for London, 1897, 13.
 conditions, knowledge required by farmer, 1897, 260.
 farmers' enlargement, 1899, 328.
 for American horses, remarks by Secretary, 1899, 57.
 butter and cheese, remarks by Secretary, 1899, 52.
 relation of uniformity of supply, 1897, 16.
 flax, lack in United States, 1897, 480.
 fruits, notes, 1898, 309.
 wood-lot products at Oakland, N. J., 1898, 306.
 gardens and market gardening, notes, 1900, 437, 439.
 gardeners, dependence on seedsmen for seed, 1899, 558.
 of American products in Denmark, discussion by Secretary, 1899, 146.
 variation of values of staple crops, note, 1897, 115.
 Marketing and picking pears, discussion, 1900, 391.
 cotton, cost, 1897, 82.
 products of Porto Rico, note, 1898, 513.
 small fruits, 1895, 289.
 timber, suggestions; importance of sorting, 1896, 416.
 truck produce, discussion, 1900, 447.
 Markets, aid of rural free delivery to farmer in learning condition, notes, 1900, 523,
 524, 525, 526, 528.

- Markets, American apples in England, 1896, 34.
 horses in England, 1896, 33.
 sheep in England, 1896, 31.
 and prices for cut flowers, 1899, 589, 590.
 best for American products, 1896, 53.
 British and Continental, early effect of crop failure of 1891 on prices, 1900, 178.
 imports of hog products, 1896, 31.
 competition of frozen meats with United States products in England, 1896, 26.
 discussion by Secretary of outlook in Europe, 1896, 28.
 English. (*See English markets.*)
 exclusion of United States cattle from continent of Europe, 1896, 28.
 farmers', effect of chemical study of foods, 1897, 82.
 for butter, observations by Secretary, 1898, 15.
 English farmers, notes, 1898, 584.
 fruits and nuts, note on exhibits at Paris Exposition, 1899, 21.
 foreign, experimental exports of dairy products, 1899, 464.
 for American products, 1894, 9.
 opposition to American products, 1897, 271, 272.
 section, remarks of Secretary on work, 1900, 67-69.
 in new dependencies, remarks of Secretary, 1900, 69.
 relation of good roads, 1897, 176.
 suggestions for packing apples for England, 1896, 35.
 variation with climate in preferences as to flour, 1896, 493.
 wood, peculiarities in United States, 1896, 414.
 world's, for farmers, 1897, 12.
- Marl, early views on use as fertilizer, 1899, 207.
 experiments by Edmund Ruffin in the use, 1895, 498.
 how it increases the fertility of the soil, 1895, 499.
- MARLATT, C. L., article on "Insect control in California," 1896, 217-236.
 "The principal insect enemies of the grape," 1895, 385-404.
 "The scale insect and mite enemies of citrus trees," 1900, 247-290.
- Marls, phosphates, 1894, 191.
- Marram grass from Cape Cod, 1897, 163.
 notes, 1894, 425.
 or beach grass, description, distribution, and propagation, 1898, 410.
- Marsh hawk, notes, 1894, 220.
 lands, demand for potash, 1896, 135.
 drying by Eucalyptus plants, 1897, 192.
 marigold, use as a pot herb, 1895, 210.
 salt, chemical composition of hay, 1895, 332.
 grasses, article by F. Lamson-Scribner, 1895, 325-332.
- Marshes, salt and tide water, area, 1895, 325.
 hay product and method of harvesting, 1895, 326.
- Martins, purple, food of nestlings, 1900, 417.
- MARVIN, C. F., article on "The use of kites in the exploration of the upper air," 1898, 201-212.
- Maryland Agricultural Experiment Station, report on rabies, 1900, 215.
 destruction of weed seed by birds, 1898, 226.
 tobaccos, curing, use and method of selling, 1899, 435.
 truck soils, 1894, 139.
- Maslin, E. W., note on planting of Smyrna fig seed, 1900, 80.
- Mason, Consul-General, report on muzzling of dogs, 1900, 244.
- Massachusetts Agricultural College library, 1899, 499.
 support, organization, and work, 1898, 64-67.
 unique position; courses of study, 1899, 183.
 Board of Agriculture, library, 1899, 504.
 cattle shows, 1894, 84.
 description and work upon sand dunes on prairie lands, 1898, 405.
 (experiment) station, cotton-seed meal investigation, 1897, 424.
 Highway Commission, mistake in road building, remarks, 1900, 351.
 Horticultural Society library, description, 1899, 502.
 indorsement of work against gypsy moth, 1898, 31.
 law on feeding stuffs, 1897, 427.
 road-improvement law, 1897, 373.

- Massachusetts Society for Promoting Agriculture, library, 1899, 494.
 State highways, 1894, 505.
- Massey, Thomas, early advocacy of soiling, 1899, 615.
- MAXWELL, WALTER, article on "The Hawaiian Islands," 1898, 563-582.
- McKinley, President, remarks in message on free delivery of rural mails, 1900, 513.
- McMurtrie, William, succession as Chemist of Department, 1899, 239.
- MEAD, ELWOOD, article on "Rise and future of irrigation in the United States," 1899, 591-612.
- Meadow, duration of productiveness of timothy, 1896, 150.
 fescue, number of seeds per pound, amount to sow, etc., 1894, 569.
 seed, notes, 1898, 487, 488.
 foxtail, notes on use and seed, 1898, 492.
 number of seeds per pound, amount to sow, etc., 1894, 570.
 quantity to sow per acre, 1898, 493.
 seed, adulteration, 1898, 480.
 grass, descriptions of seeds, 1898, 484.
 rough-stalked, number seeds per pound, amount to sow, etc., 1894, 569.
 usefulness in lawn making, 1897, 361.
 smooth-stalked, number seeds per pound, amount to sow, etc., 1894, 569.
 lark and Baltimore oriole, article by F. E. L. Beal, 1895, 419.
 beneficial to the farmer, 1895, 420.
 distribution and food habits, 1895, 420.
 estimate of number of grasshoppers eaten in one month, 1895, 422.
 examination of food in 238 stomachs, 1895, 421.
 notes on food, 1898, 230.
 oat grass, number seeds per pound, amount to sow, etc., 1894, 569.
- Meadows, after treatment of timothy, 1896, 150.
 remedy for "hidebound" condition, 1896, 152.
- Meal and flour, study of composition, 1897, 36.
 grains, and flour, analysis, remarks on problems, 1899, 235.
 Indian, moth, notes, 1894, 285.
 oilcake, exports, 1891-1895, 1895, 545.
 snout moth, notes, 1894, 286.
- Mealy bug, common, *Dactylopius citri*, distribution, description, and remedies, 1900, 282.
 damage to tobacco, 1898, 143.
 destruction by imported enemy, 1896, 226.
 injury to pineapples, 1895, 282.
- "Mealywing" (*see also* White fly), 1900, 284.
- MEANS, THOMAS H., article on "The soluble mineral matter of soils," 1898, 495-504.
- Mease, James, early observations of Texas fever among cattle, 1899, 124, 125.
- Measure, surveyor's, table, 1895, 547.
- Meat and cattle trade with Great Britain, 1895, 18; 1896, 24.
 meat products, summary view of business of packing, 1899, 329.
 canned, number packages inspected, 1891, 1894, 67.
 salted and smoked, number packages stamped, 1892-1894, 1894, 68.
 cattle slaughtered at Honolulu, table showing condition, 1898, 578.
 condemned, disposal as fertilizer; marking, 1897, 249.
 import by Great Britain, statistics, 1892-1896, 1896, 29.
 inspection, beginning and growth, 1894, 67.
 by Bureau of Animal Industry, 1897, 19.
 States and municipal authorities, a suggestion, 1895, 10.
 cost, 1894, 72.
 per animal, 1893-1895, 1895, 10.
 employees appointed upon civil-service certification, 1896, 18.
 figures showing growth, 1899, 461.
 for the year, 1895, 9.
 general, undertaking of Congress, 1897, 248.
 importance, 1894, 74.
 improvement under civil-service methods, 1896, 18.
 method of appointment, 1896, 17.
 need in local markets, 1896, 166.
 number of abattoirs employed, 1895, 10.
 proposed extension, 1897, 22.
 relation of country slaughterhouses to trichinosis, etc., 1896, 156, 163.
 to foreign markets; work of Bureau of Animal Industry, 1900, 15.

- Meat inspection, statistics, 1899, 48.
 - suggestions regarding cost, 1894, 35.
 - table of certified appointees, 1896, 18.
 - work of Bureau of Animal Industry in 1898, 1898, 23.
- inspectors placed in classified service, 1895, 9.
- need of more and better, 1899, 628.
- other than beef and hog products, exported to United Kingdom, 1892-1896, 1896, 29.
- products, American, in foreign markets, 1895, 14.
 - exports, 1891-1895, 1895, 543.
 - imports into United Kingdom, 1894, 13.
 - quantities and values, 1893-1897, 1897, 738.
- salted and smoked, number packages inspected in 1891, 1894, 67.
- supply in Honolulu, note, 1898, 576.
 - methods of country butchers in securing, 1896, 155.
- Meats, cheapness of production in United States, 1897, 10.
 - diagrams showing cuts, 1895, 572.
- dressed, and live stock, freight rates from Chicago to New York, 1895, 553; 1896, 598; 1897, 757; 1898, 757; 1899, 845; 1900, 838.
 - price, wholesale, in London Central Market, 1895, 23.
 - wholesale prices in London, 1895-1896, 1896, 25, 26.
- freight rates by years, 1897, 596. (*See also* Transportation.)
- frozen, competition in English markets, 1896, 26.
 - handling in European markets, 1896, 26.
- imported into Great Britain, average price, 1895, 24.
- imports, 1891-1895, 1895, 548.
- note on value of inspection, 1897, 258.
- notes on research for preservatives, 1899, 14.
- packed, freight rates Cincinnati to New York, by rail, 1900, 838.
 - rail rates Cincinnati to New York, 1899, 846.
- preserved, etc., remarks on examination by Division of Chemistry, 1900, 24.
- Mechanical, agricultural colleges, 1898, 63. (*See also* Agricultural colleges.)
 - analysis of soils, nature and use, 1900, 398; necessity of comparison in interpreting results, note, 1900, 402.
 - and business problems [in transportation], discussion, 1899, 643-653.
 - refrigeration, principles, 1900, 567.
 - separation of cream from milk, 1899, 393.
- Medicago lupulina* (trefoil) and *M. sativa* (alfalfa), number of seeds per pound, amount to sow, etc., 1894, 570.
 - media* (sand lucerne), note on value, 1900, 140.
- Medical profession, use of Weather Bureau, 1897, 70.
- Medicinal plants in Porto Rico, notes, 1898, 512, 513.
- Mediterranean flour moth, notes, 1894, 283.
- Megascops asio* (screech owl), food of nestlings, 1900, 430.
- Megilla maculata* (ladybird), destruction of asparagus beetle, 1896, 346.
- Melanerpes carolinus* (red-bellied woodpecker), note, 1900, 295.
- Melanotus fissilis* (wireworm) and *Melittia ceto* (squash borer), remedies, 1894, 574.
- Melicocca bijuga* (Spanish lime), injury by freezes in Florida in 1895, 1895, 172.
- Melilot, white, note on use on vacant lots, 1898, 199.
- Melilotus. (*See* Sweet pea.)
- Melon seeds, use for producing oil, 1895, 204.
- Melons, advantage of old seed, 1898, 363.
 - soil adapted, 1894, 133.
 - sugar beets and potatoes, notes and diseases, 1900, 736.
- Melospiza fasciata* (*see also* Song sparrow), 1898, 224, 227.
- Mercury (*Chenopodium bonushenricus*), use as a pot herb, 1895, 211.
 - thermometers, use in measuring soil temperature, 1900, 405.
- MERRIAM C. HART, article on "The geographic distribution of animals and plants in North America", 1894, 203-214.
 - outline of investigations of bird habits, 1899, 264.
 - recommendation of law against noxious animals, 1898, 108.
 - review of work of Biological Survey, 1897, 115-122.
- Merrill, Dr. George P., result of examination of rocks and soils, 1898, 495.
- Merula migratoria*, robin, food habits and fruit eating; nestlings, 1900, 303, 413.
- Mesquite (or grama) grasses as forage plants, 1895, 315.
 - usefulness as pasture grass, 1897, 162.

- Metcalfe bean, growth and adaptation to withstand drought, 1897, 506, 507.
 note on use as forage plant, 1899, 29.
- Meteorograph, notes, 1898, 83.
 used with kite, description, 1898, 206.
- Meteorologic equipment of Weather Bureau, improvement, 1898, 22.
- Meteorological conditions producing hot waves, discussion, 1900, 330.
 recorded by instrument with kite, 1898, 206.
 data, collection at high altitudes, 1898, 83.
 by experiment stations, 1899, 539.
 science, practical, progress, 1897, 60.
 service in Weather Bureau, extension, 1897, 31.
 three epochs, 1899, 72.
 stations, distribution and work, 1897, 68.
- Meteorologist, work for agriculture, commerce, and navigation, article by F. H. Bigelow, 1899, 71-92.
- Meteorologists, European, atmospheric explorations, 1898, 202.
- Meteorology and the farmer, 1894, 117.
 contributions of Weather Bureau, 1899, 91.
 facts obtained by aerial observations with kites, 1899, 13.
 instruction, 1899, 81.
 note on bibliography, 1899, 87.
 larger questions, 1899, 92.
 scientific theory, 1894, 119.
 study, encouragement by aid of Weather Bureau observers, 1898, 22.
- Metric system, English equivalents; notes, 1897, 672.
 explanation and tables, 1895, 614; 1896, 634.
- Mexican bean weevil, notes, 1898, 248.
 boll weevil, note on study, 1899, 15.
 cattle, danger of infection, quarantine, 1896, 22.
 cheese, award at Paris Exposition, 1900, 616.
 cotton-boll weevil, investigations of Division of Entomology, 1895, 51.
 study, 1897, 38, 86.
 work of Entomologist, 1898, 32.
 dates, inferiority, note, 1900, 459.
 frontier, principal problems of animal quarantine, 1897, 251.
 oranges, need of quarantine against fruit worm, 1897, 542.
 poppy seed, use in producing oil, 1895, 204.
- Mexicans and negroes, dietary studies, 1898, 445.
- Mexico, cattle imported, number of head inspected, 1895, 13.
 date culture, 1900, 482.
 distribution of Morelos orange fruit worm, 1898, 31.
 equipment of meteorological stations, 1898, 20.
 fruit insects other than orange worm, 1897, 546.
 inspection of animals, 1899, 49.
 imported animals, 1898, 26.
 notes on tobacco exhibit at Paris Exposition, 1900, 158.
 number of animals imported and inspected, 1897, 21.
- Mice and rats, historical notes on common species, 1898, 91, 92.
 injury to orchard and destruction by birds, note, 1900, 299.
 note on destruction by crow, 1897, 348.
- Michigan, agricultural books for farmers, 1899, 510.
 College, experiments with irrigating system, 1895, 243.
 library, 1899, 500.
 organization and work, 1898, 67-68.
 character of public land, 1898, 347.
 experiment station, tests of shrinkage of potatoes, note, 1900, 338.
 loss by "little peach" in 1898, 1898, 652.
 public lands, 1898, 326, 330.
 success of flax industry, 1897, 484.
 system of post training for grapevines, 1896, 508.
 table of property loss by lightning, 1898, 86.
- Microbe causing pear blight, life history, 1895, 296.
- Microorganism of pleuropneumonia, note, 1899, 113.
 necessity for care, 1899, 252.
 note on preparation of plant nutrition in soil, 1897, 294.
 relation to nitrogen nutrition of cultivated plants, 1899, 246-253.
 putrefaction and fermentation, list of investigators, 1899, 250.

- Microparasite of Texas fever, presence in red corpuscles; virulence, 1898, 466, 468.
 Microscope, use in study of fungous diseases, 1897, 103.
 Microscopic inspection of pork, 1897, 20, 103, 247; 1898, 24; 1899, 462; 1900, 15, 16.
 payment, 1897, 22.
 statement of secretary as to payment, 1898, 27.
 Microscopical apparatus for seed investigation, 1894, 401.
 Microscopy, division, abolishment, 1895, 57.
 work of the year, 1894, 61.
 Migratory weeds, notes on introduction, 1898, 198.
 Milch cows, best nutritive ratio, 1897, 489. (*See also Cows.*)
 experiment in feeding with beet pulp, 1898, 216.
 rations containing corn stover (fodder), 1896, 359.
 statistics, 1895, 533, 534; 1896, 574; 1897, 733, 734; 1898, 701; 1899, 818, 820.
 Mildew, downy, of grape, treatment, 1894, 577.
 of grapes, experiment in garden and grounds, 1897, 185.
 or blight, of potatoes, description, 1897, 103.
 vine, danger to field pea, 1897, 503.
 Mildews, powdery, attacks upon foliage, treatment, 1896, 254.
 Miles, Manly, building of first silo, 1899, 616.
 Milk and cream, awards on United States exhibit Paris Exposition, 1900, 607.
 kerosene emulsion, formula, 1895, 585.
 milk products, work of experiment stations, 1899, 542, 543.
 as a carrier of infectious diseases, 1895, 431.
 human food, results of dietary studies, 1897, 512.
 bitter taste from alsike, 1897, 504.
 butter, and cheese, early methods, 1899, 382, 383.
 classification of by-products, 1897, 509.
 different forms for pasteurizing or sterilizing, 1894, 344.
 effect of herd improvement on yield and quality, 1899, 392.
 estimate of amount of dirt contained, 1894, 331.
 experiments in removing tubercle bacilli, 1895, 437.
 fat test, Babcock tester for making, 1899, 395.
 fever and abortion, 1894, 307.
 for children, pasteurization, 1894, 332.
 city use, points of failure in care, 1896, 432.
 infants and invalids, preparation, 1894, 333.
 formula for kerosene emulsion for insects, 1898, 661.
 formulas for diluting, 1894, 339.
 how it becomes contaminated with bacteria, 1895, 433.
 imports, 1891-1895, 1895, 548.
 in Porto Rico, note, 1898, 509.
 list of forms, etc., 1899, 331.
 mechanical separation of cream, 1899, 393.
 methods for destroying or removing bacteria, 1895, 435.
 note on content of carbohydrates, 1898, 446.
 pasteurization and sterilization, 1894, 37, 331, 351.
 in various quantities, 1894, 338.
 preservation by use of formaldehyde, 1896, 261.
 with chemicals, 1894, 332.
 production, growth of business, 1899, 399.
 products, fertilizing constituents, 1895, 567.
 proposed inspection for export, 1897, 23.
 relation to expensiveness of food, 1898, 449.
 results of studies of food value, 1897, 513.
 sales on English farms, notes, 1898, 585, 586.
 separators, experiments, 1895, 437.
 inefficiency in removing bacteria, article, by Veranus A. Moore, 1895, 431.
 skim. (*See Skim milk.*)
 sugar, manufacture from whey, 1897, 525.
 per cent in different varieties of cheese, 1895, 456.
 price, tariff, use of waste at factories, 1897, 526, 527.
 supply of Honolulu, 1898, 577.
 use of formaldehyde as preservative, 1900, 559.
 Milking and attendance of dairy herd, 1894, 310.
 method without change, 1899, 398.

- Milkweed, suggested use as a pot herb, 1895, 214.
- Millers' Association of Kansas and Oklahoma, importation of seed wheat, 1900, 135.
- Millet, common, description and use, 1898, 271.
 forage, reputed injuriousness, 1898, 289.
 from Chesapeake Bay islands, note, 1897, 163.
 hay, evil effects of exclusive feeding, note, 1900, 308.
 Indian, value on alkali soils, 1900, 596.
 Japanese barnyard, note on use, 1899, 30.
 stubble, use of ground for sowing timothy, 1896, 149.
 swamp, as soil binder, 1894, 435.
 white broom corn, note on resistance of drought, 1900, 139.
- Millet and other forage plants, composition, 1898, 655.
 article by Thomas A. Williams, 1898, 267-290.
 barnyard, origin, extent of cultivation, and varieties, 1898, 276, 277.
 broom corn, origin, extent of cultivation, and varieties, 1898, 281, 282.
 composition and digestibility, 1898, 288.
 culture, 1898, 283.
 fertilizing value, 1898, 289.
 foxtail, habit and condition of growth, 1898, 270.
 leading States in growing, 1898, 269.
 time and manner of harvesting and seeding, 1898, 285.
 use and feeding value, 1898, 287.
 as food in Asia, 1898, 277.
 value for succulent forage, 1899, 625.
- MILNER, R. D., and A. C. TRUE, article on "Development of the nutrition investigations of the Department of Agriculture," 1899, 403-414.
- Mimus polyglottos* (mocking bird), distribution and food habits, 1895, 415.
 food of nestlings, 1900, 416.
- Mina, introduction and injuriousness in various places, 1898, 103, 104.
- Mineral fertilizers, early lack of appreciation, 1899, 213.
 food of plants, remarks, 1895, 70.
 lands, exception to general laws, 1898, 353.
 of Western States, notes, 1898, 332, 333, 338, 339.
 public, laws, 1898, 352.
 matter in humus, 1895, 135.
 plants, translation, 1895, 71.
 matters, amount in bread, 1894, 40.
 oil, crude black, experiments against Texas fever ticks, 1898, 456.
 notes on laws, 1898, 352.
 oils, exports to United Kingdom, 1894, 18.
 phosphates as fertilizers, 1894, 177.
 theory of plant nutrition, 1899, 221.
 wealth of arid region, 1899, 599.
- Miner's inch in irrigation, definition, 1897, 640.
- Mining camps, free delivery of mails, 1900, 521.
 claims, application in Alaska of United States laws, 1898, 354.
 industry, note on relation to roads, 1900, 183.
 value of imports, 1894, 65.
- Minnesota, character of public lands, 1898, 346.
 experiment in introduction of ash and box elder, 1897, 158.
 station, experiment as to potatoes, 1900, 343, 345.
 experiments with humates, 1895, 136, 137.
 report on feeding calves, 1897, 518.
 note on cooperative work in tree planting, 1897, 157.
 tax on forest land, 1898, 185.
 public lands, 1898, 326, 330.
 University, investigations of rabies, conclusions, 1900, 217.
- Minorca chickens, advantages, description, and weights, 1896, 464.
 comparison with Leghorns, 1896, 465.
- Mirror box for grass seed tests, description, 1897, 444.
- "Mission" grape in California, origin, 1898, 551.
- Mississippi Agricultural and Mechanical College, notes, 1898, 69.
 and Ohio valleys, frequency of cyclones, 1898, 525.
 cattle, greater virulence of Texas fever, 1898, 468.
 character of public lands, 1898, 348.
 flood of 1897, 1897, 30.
 kite, notes, 1894, 218.
 public lands, 1898, 326, 330.

- Mississippi, relation of floods to forestry, 1897, 148.
 River, occurrence of tornadoes, 1898, 533.
 Valley, diminution of timber supply, 1900, 147.
 eating of weed seed by birds, 1898, 225, 226.
 note on indigenous fruits, 1897, 307.
 notes on birds, 1897, 345.
 property saved by flood warnings; losses, 1897, 66.
 seedling fruit in 1800, 1897, 310.
 varieties of wheat, oats, and corn for cultivation, 1897, 116.
- Missouri, (experiment) station, notes on introduction of vegetables, 1900, 140, 141.
 note on raising of Angora goats, 1898, 435.
 use of osage orange for posts and hedges, 1900, 149.
 public lands, 1898, 326, 330, 348.
- Mitchill, Samuel L., first professor of agriculture in Columbia College, 1899, 161.
- Mite and scale insect enemies of citrus trees, article by C. L. Marlatt, 1900, 247-290.
 of orange and lemon, discussion; remedies, 1900, 285, 288.
 pineapple (red spider), disease of the pineapple, 1895, 282.
 six-spotted, *Tetranychus sexmaculatus*, discussion, 1900, 289.
 species of Florida, note, 1900, 250.
- Mocker nut, suggestions for growing, 1897, 660.
- Mocking bird, distribution and food habits, 1895, 415.
 food of nestlings, 1900, 415.
- Modestoff, Rev. V. V., note on gardening at Nushagak, Alaska, 1898, 520.
- Mohave desert, discussion of rainfall and soil moisture, 1897, 433.
 fitness for growing date palm, 1900, 486.
- Moisture and temperature of air, 1900, 109.
 soils, 1899, 343.
 conditions in soils, records and study, 1897, 131.
 conservation in soil by potash salts, 1896, 132.
 content of soils at several places in 1898, 1898, 654.
 note on records, 1898, 41.
 importance of conservation to staple crops in West, 1897, 124.
 improvement in method of applying to soil, 1897, 35.
 in soils, methods of determination, 1900, 402, 403.
 of soil, electrical method of determination, 1897, 436.
 normal variations; other notes, 1897, 128.
 the air, observations to foretell frosts, 1895, 149.
 relation to control of noxious insects, 1896, 218, 234.
 tree planting on waste places on farm, 1898, 336.
 soil. (See Soil moisture.)
- Molasses and sugar, exports. (See Exports.)
 as food for cattle, 1898, 218, 219.
 imports. (See Imports.)
- Mold, sooty, of orange, note, 1898, 652.
 treatment, 1894, 578.
 sour, prevention, 1895, 134, 140.
- Monetary units, foreign, United States equivalents, 1897, 672.
- Money orders, registered mail and drop letters, free rural delivery, 1900, 521.
- Mongoose, introduction into Jamaica for destruction of rats, 1898, 93, 94.
- Monroe, President, vetoes of road bills, 1899, 374, 375.
- Monsarrat, William T., veterinary officer at Honolulu, notes, 1898, 575, 578.
- Montana, character of public lands; climate, 1898, 331, 332.
 description of soil samples, 1897, 439.
 eastern, note on study of forage plants, 1897, 166.
 extensive poisoning of sheep by camas, 1900, 322.
 note on cooperative work in tree planting, 1897, 157.
 study of poisonous plants, 1900, 30.
 public lands, 1898, 326, 330.
 sheep industry, note, 1900, 305.
- Monthly list of publications, note as to issue, 1897, 207.
 reports, dates of publication; character, 1897, 211.
- Moore, Professor, administration of Weather Bureau, 1899, 80.
- MOORE, VERANUS A., article on "Inefficiency of milk separators in removing bacteria," 1895, 431-444.
- MOORE, WILLIS L., article on "New work in the Weather Bureau," 1898, 81-86.
 plan for survey of upper air, 1898, 201.
 review of work of Weather Bureau, 1897, 59-76.
- Moose, number imported from Canada, 1895, 13.

- Morels and truffles, description, etc., 1897, 467.
- Mormons, early irrigation at Salt Lake, 1899, 592.
in Utah, 1899, 343.
- Morrill Act, effect on farmers' institutes, 1899, 170.
events leading to enactment, 1894, 92, 110.
notes on grant, 1897, 136.
of 1862, remarks on introduction and passage, 1899, 166.
1890, notes on use of appropriations, 1898, 64, 67; 1899, 173.
provisions, 1899, 167.
second, passage; provision for appropriation, 1894, 110; 1899, 172.
Justin L., remarks on character and on work for agriculture, 1899, 167.
- Mort, T. S., experiments in transportation of frozen meats, 1900, 567.
- MORTON, J. STERLING, institution of Arbor Day, 1899, 306.
report as Secretary of Agriculture, 1894, 9-66; 1895, 9-68; 1896, 9-54.
- Moseby's Prolific corn, adaptation to the South, 1897, 116.
- Mosquitoes and flies, carrying of disease, 1899, 15.
note on publications, 1900, 28.
- Moth, grape berry, 1895, 402.
pea, notes, 1898, 257.
white-marked tussock, 1895, 368.
- Moths, hawk, species injurious to grapes, 1895, 400.
- Moulie, E., growth of tube roses for perfume in Florida, 1898, 394.
perfumery farming, 1898, 384, 386.
- Mount Tamalpais, establishment of meteorological station, 1898, 82.
Union, source of irrigation streams, 1899, 597.
- Mountain forests of Southern Appalachians, note, 1900, 365.
roads, article by James W. Abbott, 1900, 183-198.
discussion of dressing, 1900, 197.
effect of mistake in grading, 1900, 185.
methods of travel over heavy grades, 1900, 185.
notes on proper methods in building, 1900, 188.
stations in weather service, note, 1899, 91.
- Mourning dove, consumption of weed seed, 1898, 232.
- Mouse, Siberian red-backed, spread on Bering Island, 1898, 88.
- Mowers and reapers, improvements including patents, trial, etc., 1899, 318.
- Moyamensing Pine prize strawberry, note, 1899, 483.
- Muck, injurious action on orange, 1894, 195.
means of maintaining humus of the soil, 1895, 140.
soil, effect of fertilizing with different phosphates, 1894, 189.
- Muhlenbergia* spp., notes, 1900, 592.
- Mulberry, note on growing and value, 1900, 149.
red, range, suggestions for growing, 1897, 662.
Russian, sections for profitable planting, 1900, 152.
- Mules, exports, 1891-1895, 1895, 543. (*See also* Exports.)
number, value, and average price, by States, 1897, 263.
statistics, 1895, 533, 546; 1896, 574, 577; 1897, 733; 1898, 702; 1899, 818, 819.
(*See also* Imports, Exports.)
- Mullein, woolly, extermination under direction of botanist, 1897, 96.
- Munro, General, note on work on grasses, 1899, 363.
- Munson, T. V., experiments in hybridization of grapes, 1899, 477.
- Murgantia histrionica*, remedies, 1894, 573.
- Murre, Pallas, food of nestlings, 1900, 433.
use of eggs, 1899, 271.
- Musa (banana), injury by freezes in Florida in 1894-95, 1895, 172.
- Museum, organization, 1894, 525.
- Mushroom, common, description, 1897, 456.
honey, injury to trees, 1900, 200.
poison, atropine as antidote, 1896, 145.
quantity causing death, 1896, 145.
- Mushrooms and other toadstools, rules for edible kinds, 1897, 469.
dangerous resemblance of several species, 1897, 458.
description of manner of growth, 1897, 454.
differences between common and poisonous species, 1897, 459.
poisonous varieties and their effects, 1896, 144.
- Muskmelon, Khiva winter, note on introduction in Arizona, 1900, 138.
note on new variety, 1900, 141.
seed, effect of different temperatures on germination, 1895, 178.

- Mustard, black, use as a pot herb, 1895, 211.
 seed, use in producing oil, 1895, 202, 203.
- Mutton, Australian, first cargo in London, note, 1900, 567.
 British imports, 1892-1896, 1896, 29.
 diagram showing cuts of meat, 1895, 572.
 exports to different countries, values, 1895, 546.
 imports into United Kingdom, 1894, 14.
 in Great Britain, consumption, imports and price, 1895, 24, 25.
 price, wholesale, in Liverpool, Berlin, and Paris, 1895, 24.
 relation to sheep breeding, 1899, 639.
 statistics of inspection in 1898, 1898, 24.
- Muzzles, use in prevention of rabies among dogs, 1900, 242.
- Mycelium, action in spread of fungous diseases, 1896, 248, 249, 250.
 use in starting growth of toadstools, including mushrooms, 1897, 454.
- Mycology, section, establishment in Department of Agriculture, 1899, 194.
- Myer, A. J., scheme of weather warnings, 1899, 77.
 General, features of weather service under administration, 1899, 78.
- Myiarchus crinitus* (great-crested flycatcher), food of nestlings, 1900, 426.
- Myrica cerifera* (bayberry), used in binding sands, 1898, 411.
- Mytilaspis citricola* (purple scale of orange), remedies, 1894, 574.
 gloveri and *citricola* (scale insects), distribution and treatment, 1900, 265, 266.
 pomorum (oyster shell bark louse), notes, 1894, 254, 574.

N.

- Nantucket, mistake in road building, 1900, 352.
- Napa County, Cal., establishment of wineries, 1898, 554.
- National Herbarium, additions of grasses, 1898, 41.
 establishment, usefulness, and relation to botanist, 1897, 91.
 highways, movement, proposition in Congress, 1899, 372, 373.
 parks, forest problems, 1899, 298.
 Weather Review, publication of observations, 1897, 70.
- Native fiber plants, note on utilization, 1897, 228.
 fruits, cultivation, 1897, 307.
 grapes, note on list, 1897, 186.
 grasses, abundance; distribution by Division of Agrostology, 1897, 161, 162.
 - for arid lands, 1897, 166.
 trees, proposed study of experiments in plains, 1898, 188.
- Natural sciences, work of land-grant colleges, 1899, 169.
- Nature study in common schools, note, observation by the Secretary, 1898, 12, 16.
 teaching in rural schools, note, 1897, 284, 285.
- Navel orange, introduction by William Saunders, 1900, 628.
 note on production of seed by crossing, 1897, 390.
 stocks for propagation, 1896, 477.
- Nebraska, notes on profitable tree planting, 1900, 146.
 public lands, 1898, 326, 330.
 rainfall available for crops, 1894, 157.
 University, report of animal pathologist on rabies, 1900, 217.
 use of Redfield's grass as sand binder, 1898, 417.
- Nectarine and peach, objects and methods of pruning, 1898, 164.
- Nectarines, notes on growth in orchard house, 1897, 194.
- Nectarophora tabaci*, damage to tobacco, 1898, 144.
- Nectria cinnabarina*, *nectria ditissima*, cause of warts in trees, 1896, 258.
 cucurbitula, cankers in conifers, 1896, 253.
- Needle grasses, distribution and value, notes, 1900, 589, 594.
 value as forage plants, 1895, 318.
- Negro population and farm lands in relation to goat raising, 1898, 428, 438.
- Negroes and Mexicans, dietary studies, 1898, 445.
- Nelson, Dr. S. B., experiment with poison camas, 1900, 321.
- Nelson's saltbush, notes, 1898, 547.
- Nematus ventricosus*, remedies, 1894, 573.
- Neroli or orange-flower oil, extraction, 1898, 385.
- Nestling birds, food, article by Sylvester D. Judd, 1900, 411-436.
- Nettle, common, suggested use as a pot herb, 1895, 214.
- Nevada, culture of dates, 1900, 484.
 description of soil samples, 1897, 439.
 public and irrigable lands, water supply, 1898, 326, 330, 333.

- New England colonists, reports as to native fruits and nuts, 1897, 306.
 complaints of red-winged blackbirds, 1897, 348, 349.
 remarks by Secretary on abandoned farms, 1899, 60.
 spacing in setting pine trees, 1896, 336.
 time for seeding for lawn, 1897, 363.
- New Haven, Conn., use of steam road engine in spraying, 1896, 80.
- New Jersey, building of good roads, 1897, 41, 177, 373, 374, 376, 380; 1899, 378.
 irrigation investigations, notes, 1900, 66.
- New Mexico, character of public lands, their water supply and products, 1898, 334.
 date culture, 1900, 483.
 growth of saltbush, 1898, 540.
 public lands, 1898, 326, 330.
- New Orleans, packing and canning of figs, 1897, 317.
 training of sugar experts, 1899, 187.
 value of flood warning in 1897, 1897, 66.
 orange flowers for perfumery, 1898, 387.
 wholesale prices of cotton, 1892-1897, 1897, 731.
- New South Wales, note on injury to tobacco by Gelechia, 1898, 139.
- New York, act of early legislature granting money for teaching agriculture, 1899, 161.
 Agricultural Society, library, 1899, 503.
 and Liverpool, average prices of cotton and wheat, 1897, 594.
 appropriation for nature teaching, 1898, 17.
 appropriations for agricultural education among farmers, 1897, 283.
 Chamber of Commerce, declaration as to need of good roads, 1897, 175.
 College of Forestry, remarks; forestry work in Adirondacks, 1899, 753.
 Experiment Station, note on crossing of Indian corn, 1897, 405.
 object-lesson roads at Geneva, 1897, 376.
 offer by industrial society of premiums for linen thread, 1897, 471.
 plan for university extension in agriculture, 1897, 283.
 plum lecanium, notes, 1894, 272.
 progress in forestry, 1899, 753.
 Public Library, agricultural books, 1899, 507.
 reports of veterinary schools and of veterinarians on rabies, 1900, 213.
 Society for Promotion of Agriculture, work for libraries, 1899, 493.
 State Forest Reserve, note on working plan, 1900, 51.
 to Chicago by rail, freight rates, discussion, 1898, 724; 1899, 660, 661.
 wholesale prices of cereals, hay, and cotton, 1892-1897, 1897, 727-731.
- New Zealand, export of rabbit skins and canned rabbit meat, 1898, 93.
 flax, note on introduction into United States, 1897, 199.
 injuries by starling, 1898, 102.
 introduction of English sparrow, 1898, 100.
 orchard-grass seed, points of inferiority, 1898, 487.
 spinach, introduction into United States, use as a pot herb, 1895, 214.
- Newbold, Charles, first patent for plow, 1899, 315.
- NEWELL, F. H., article on "Irrigation on the Great Plains," 1896, 167-196.
 estimates of arid lands and of irrigable lands, 1898, 327.
- Newton, Commissioner, remarks on work of Chemist, 1899, 237.
 tribute to Sir Humphry Davy, 1899, 206.
 Isaac, notice of value of weather and climate observations, 1897, 59.
- Nice, France, date palm of unusual hardiness, notes, 1900, 485, 487.
- Nicolson, John, remarks as to cleaning of blue-grass seed, 1899, 566.
- Nicotiana*, note on hybrids, 1897, 393.
- Nicotine, use of solution against suck fly on tobacco, 1898, 136.
- Niger-seed oil, production and use, 1895, 196.
- Night soil, note on use in flax culture, 1897, 474.
- Nile, irrigation and dependent population, comparison, 1899, 598.
- Niles, Cal., notes on experiments with figs, 1900, 82.
- Nitrate of soda, properties, uses, and value, 1895, 88.
- Nitrates, absorption by plants, 1895, 91.
 conversion of nitrogen of ammonia, 1899, 251.
 impregnation of soils, 1895, 87.
 problem of supply, 1899, 249.
 soil preservation, 1895, 84, 90.
- Nitric acid in the soil, conversion of nitrous acid, 1895, 74.
 note as best food for agricultural plants, 1897, 294.
- Nitrification important to soil fertility, 1895, 133.
 of soil by micro-organisms, remarks, 1897, 78.

- Nitrification of soil, diagram showing relation of temperature, 1895, 100.
 favorable conditions, 1895, 75.
 progress of study and discussion, 1899, 251.
- Nitrifying ferments of the soil, 1895, 73.
 organisms for seeding soil, 1895, 78.
 numbers and kinds, 1895, 80.
 study by division of chemistry, 1899, 246.
 of application to soil, 1899, 742.
 vitality influenced by position in soil, 1895, 76.
- Nitrogen bacteria, need of inoculation, 1897, 491.
 collection by roots of cowpeas, 1896, 289.
 effect on oranges, 1894, 195.
 failure of Liebig to find method of feeding to plants, 1899, 221.
 fixing organisms, rules for inoculation of soil, 1897, 299.
 free, oxidizing, 1895, 81, 82.
 gathering by leguminous crops, note, 1897, 488.
 in agriculture, early views, 1899, 217.
 humus, amount contained in different soils, 1895, 13.3
 lack in West (plains region), 1900, 539.
 liberation from manure as cause of loss, 1897, 296.
 note as to form suitable for plant food, 1897, 295.
 nutrition of cultivated plants, relation of micro-organisms, 1899, 246-253.
 of the soil, effect of fall plowing, 1895, 134.
 supply at minimum cost, 1897, 298.
- Nitrogenous fertilizers for pear orchard, notes, 1900, 380.
 food for leguminous plants, supply by bacteria, 1899, 248, 249.
 manures, preservation, 1897, 79.
 matter in potato, notes, 1900, 340, 341.
- Nitrous acid in the soil, production and conversion into nitric acid, 1895, 74.
- Nixon bill as origin of university extension among farmers, 1897, 283.
- Nocard, assertion as to certainty of tuberculin test upon cattle, 1898, 118.
- Norfolk, Va., early development of strawberry growing, 1900, 562.
 saving of cotton from tide by Weather Bureau warning, 1898, 21.
- NÖRGAARD, VICTOR A., article on "Cattle dipping, experimental and practical," 1898, 453-472.
- Normal schools in France, courses in agriculture, note, 1900, 127.
 note on instruction for nature teaching, 1898, 17.
 teachers of agriculture in Belgium, 1896, 368.
- Normals in weather service, remarks, 1899, 85.
- North Carolina, average cost of fertilizers and profit on cotton, 1897, 599.
 bright yellow tobacco, favorable comparison with Turkish tobacco, 1900, 49.
 eastern, truck lands, 1894, 137.
 infection of Texas fever from cattle, 1897, 240.
 notes on mountain region, 1900, 357.
 production of tuberoses bulbs, 1898, 394.
 publication of list of apples, 1897, 190.
 rediscovery of poison sumac, 1896, 140.
 time for seeding for lawn, 1897, 363.
- Dakota, description of soil samples, 1897, 439.
 Experiment Station, experiment with millets, 1898, 290.
 public lands, water supply, 1898, 326, 330, 343.
 (United States), dates of killing frost, 1897, 618.
- Northern States, note on sugar beets, 1899, 57.
- "Northers," preparation for observation, 1898, 20.
- Northwest prairie region, problem of securing apples suited to climate, 1899, 478.
- Norton, John Pitkin, note on work in agricultural chemistry, 1899, 227.
- Norway rat, notes on history and distribution, 1898, 91.
- Novius (Vedalia) cardinalis*, 1900. (See Ladybird).
 introduction against fluted scale, note, 1899, 153.
- Noxious animals and birds, danger of introducing, article by T. S. Palmer, 1898, 87-110.
 legislation for prevention of spread, note, 1900, 46.
 breeding to get bounty, 1896, 64, 65.
 extermination by bounties, article by T. S. Palmer, 1896.
 means of extermination, substitute for bounty, 1896, 56, 65, 67.
 summary and result of extermination, 1896, 58, 67.
 tables of bounties by States, 1871 to 1895, 1896, 60.

- Nozzles for spraying, notes, 1896, 79, 83, 87; 1899, 153.
Nucifraga columbiana (crow), food of nestlings, 1900, 426.
 Nursery, location on farm for forest trees, 1896, 328.
 species of trees for farm, 1896, 327.
 stock as most dangerous way of importation of insects, 1897, 537.
 diseases, remarks, 1897, 109; 1899, 198.
 distribution of weeds, 1896, 274.
 Nurserymen, use of hydrocyanic-acid gas on stocks, 1899, 151.
 Nut grass, method and extent of distribution, 1896, 274, 281.
 trees, advantages of mixture with lower growth, 1896, 339.
 suggestions for planting in waste places, 1896, 338.
 Nuthatches and creeper, habits and relation to fruit growing, remarks, 1900, 296.
 Nutrients, ingredients of food bearing name "nutrients," 1898, 441.
 note on relation to cost of food, 1898, 447.
 summary of uses, 1897, 677.
 Nutriment in food, examples of lack of knowledge, 1898, 448.
 of food and its cost, 1894, 359.
 Nutrition, human and animal, work of experiment stations, 1899, 35, 536, 543.
 investigations, features, 1894, 38; 1898, 51; 1899, 405, 411, 412, 530.
 of Department of Agriculture, development, article by
 A. C. True and R. D. Milner, 1899, 403-414.
 nitrogen, of cultivated plants, relation of micro-organisms, 1899, 246-253.
 of man, investigations by Office of Experiment Stations, 1894, 377, 380;
 1897, 141; 1899, 404, 530; 1900, 64.
 plants and animals, chemical researches, 1899, 23, 232.
 study of relation to growth, productiveness, and health of plants, 1897,
 111.
 value of food, work assigned, 1894, 116.
 Nutritive ingredients of food, 1894, 361; 1897, 676.
 ratio, definition, 1897, 488.
 value and economy of foods, remarks by the Secretary, 1895, 37; 1899, 35.
 Nuts and fruits. (*See also* Fruits and nuts.)
 suggestions of improvements by hybridization, 1897, 419.
 nut products, discussion and statistics, 1897, 335, 343.
 wild fruits in colonial times, note, 1897, 305.
 fruits, and other horticultural crops, note on proposed study, 1900, 42.
 improvement by selection, 1899, 489.
 native, reason for lack of attention, 1896, 298.
 note on exhibit at Paris Exposition, 1899, 20.
 portion of blue jay's food, 1896, 203.
 semitropical, production, 1889, imports, 1891 to 1896, 1896, 596.
 training of trees for production, 1896, 339.
 Nuttall Ornithological Club, formation and work, 1899, 260.
 Nuttall's blister beetle, description, distribution, and remedies, 1898, 251.
 salt sage, description, usefulness, etc., 1898, 545.
 Nyce, Rev. Benjamin M., experiments in construction of ice storage house, and patent, 1900, 564.
Nycticorax nycticorax navius (night herons), food of nestlings, 1900, 435.

O.

- Oak and chestnut, annual growth at Oakland, N. J., 1898, 304.
 bur, post, and white, uses and sections for profitable planting, 1900, 144, 150,
 152.
 chestnut, and walnut trees, waste, 1897, 154.
 note on fungus which causes white rot, 1900, 205.
 Oakland, N. J., working plan for wood lot of E. D. Page, 1898, 301.
 Oaks and verbenas, note on spontaneous hybridization, 1897, 384.
 cedar, and cypress, notes on studies, 1900, 53.
 kinds, uses of wood, size, etc., 1897, 655, 659.
 Oases. (*See* Sahara.)
 Oat crop of certain countries, 1899, 777; 1900, 773.
 grass, meadow, number seeds per pound, amount to sow, etc., 1894, 569.
 yellow, distinction by awn from wood hairgrass, 1898, 475.
 number seeds per pound, amount to sow, etc., 1894, 570.
 smut, hot-water treatment, 1894, 415, 578.
 potassium sulphide treatment, 1894, 414.

- Oatmeal, exports and values, 1891 to 1895, 1895, 544, 546.
 factories, per cent of hulls in feed, 1897, 426.
 imports, 1891 to 1895, 1895, 548.
- Oats affected with loose smut, 1894, 412.
 effect of different temperatures on germination, 1895, 178.
 experiments by Department, 1897, 111.
 growing in Hawaii, 1898, 572.
 improvement by hybridization, 1899, 488.
 in Alaska, notes, 1898, 518.
 potash drawn from soil by crop, 1896, 114, 115.
 seaside, description; usefulness in binding sands, 1898, 415.
 statistics (acreage, etc.), 1894, 536, 545; 1895, 528, 529, 532, 536, 539, 544, 546, 548; 1896, 565, 567, 581; 1897, 710, 714, 719, 721, 724, 728; 1898, 678, 682, 688, 690, 693, 697; 1899, 760, 766, 777, 784, 789, 794, 798, 803; 1900, 773-781.
 table, showing average value and yield, 1897, 592.
 varieties adapted to South Carolina, Georgia, Alabama, Mississippi, Louisiana, and central Texas, 1897, 116.
 water (beach grass), as soil binder, 1894, 430.
 weed seed mixed with seed, 1896, 227.
 wheat, and corn, investigation of zones, 1897, 32.
- Object-lesson roads, Office of Road Inquiry, 1897, 374, 380; 1898, 38.
- Observers, voluntary, of the Weather Bureau, remarks, 1895, 555; 1897, 27, 62, 69.
 reform in method of publication of observations, 1897, 70.
- Ocean, contribution of nitrogenous matter to soil, 1895, 94.
 refrigeration, discussion, 1900, 578.
- Ocneria dispar* (gypsy moth), remedies, 1894, 573.
- Odessa wheats, fitness for growing in semiarid districts, 1900, 536.
- Ecanthus fasciatus* (tree crickets), damage to tobacco, 1898, 143.
- Offal, danger of use as feed for hogs, 1896, 156.
 disposal at country slaughterhouses, 1896, 156, 166.
- Office of Experiment Stations, organization, duties, publications, 1894, 37, 110, 115, 524. (*See also* Experiment Stations.)
 fiber investigations. (*See* Fiber Investigations, Office.)
 scope of the work, 1896, 557. (*See also* Fiber.)
 irrigation inquiry. (*See* Irrigation Inquiry, Office.)
 Road Inquiry, scope of work, 1896, 557. (*See also* Road.)
- Ohio and Kentucky Burley tobacco, note on position in trade, 1900, 164.
 Experiment Station, experiments with greenhouse subirrigation, 1895, 245.
 notes on tobacco soils, 1897, 127.
 State University, organization and work, 1898, 75.
- Oil and sulphur, conclusions as to use against cattle ticks, 1898, 471.
 bath for killing Texas-fever ticks, 1898, 455.
 cake and oil-cake meal, exports, 1895, 545. (*See also* Exports.)
 for fertilizing, recommendation by Davy, 1899, 211.
 from United States, Danish purchases, 1899, 46.
 imports, 1895, 549. (*See also* Imports.)
- cotton-seed, how extracted, 1895, 186.
 exports to different countries, values, 1895, 546. (*See also* Exports.)
 from castor bean, various uses, 1895, 191.
 seeds, how obtained, 1895, 185.
 imports, 1895, 548. (*See also* Imports.)
 of roses, note on adulteration, 1898, 381.
 prices of different kinds, 1895, 204.
 producing seeds, article by Gilbert H. Hicks, 1895, 204.
- Oils, almond, olive, cocoanut; statistics of imports, 1897, 330, 336, 339.
 for perfumery, imports into United States, 1898, 378.
 mineral, exports to United Kingdom, 1894, 18.
 of citrus fruits, method of extraction, 1898, 385.
 preparation and use as insecticides, 1898, 661.
- Oklahoma and Indian Territory, dipping of cattle for ticks, 1898, 470.
 character of public lands, their water supply and irrigation, 1898, 345.
 note on cooperative work in tree planting, 1897, 157.
 public lands, 1898, 326, 330.
- Old-man saltbush, description and grazing value, 1898, 543.
- Oleander scale, *Aspidiotus hederae*, distribution and description, 1900, 269.
- Oleomargarine, amount sold in 1883 and 1894, 1895, 446.
 analysis by Jas. A. Emery, 1895, 452.

- Oleomargarine cheese (filled cheese), remarks, 1895, 467.
 exports, 1893 and 1894, 1895, 446. (*See also* Exports.)
 to different countries, values, 1895, 547.
 fraudulent sale, remarks, 1895, 451.
 hygienic effects, 1895, 447.
 manufacture and sale, remarks, 1895, 445.
 material used for manufacture, 1895, 446.
 notes on substitution for butter, 1899, 244.
 possibility of transmitting infectious diseases; experiments, 1895, 449.
- Olive, bacterial disease, note, 1898, 652.
 consumption and uses in the United States, 1896, 372.
 cultivation in Naples, 1896, 378.
 without irrigation in California, 1896, 378.
 culture in the United States, article by Newton B. Pierce, 1896, 371-390.
 diseases in Europe and the United States, 1896, 389.
 early planting in Sahara Desert, note, 1900, 474.
 extent of cultivation in the United States, 1896, 372, 390.
 grafting, 1896, 376.
 imports of fruit and oil, 1896, 390.
 oil, extraction and clarification, 1896, 385, 386.
 imports, 1896, 390.
 of California, superiority; imports and statistics, 1897, 330, 331, 332.
 substitutes sold, 1896, 373.
 use in manufacture of perfumery, 1898, 380.
 orchard, best location, 1896, 377.
 pickles and pickling in California, 1896, 387.
 pollination experiments, 1896, 382.
 propagation, methods, 1896, 373-376.
 pruning, 1896, 380, 381.
 scale, note on introduction of parasite, 1900, 27.
 transplanting, 1896, 379, 380.
 trees, note on distribution from experimental gardens, 1897, 193.
 varieties, 1896, 374, 383, 384.
- Olives and camphor as new crops, 1897, 44.
- Olivier, notes on four-spotted weevil, 1898, 245.
- Olympic Mountains, Washington, effect of forest fires, 1898, 190.
- Omaha Exhibition, notes on exhibit of fruit models, 1898, 56.
 proposed trial of hemp and ramie machines, 1897, 33.
 test of steel-track wagon road, 1898, 292.
- Onions, exports, 1895, 545. (*See also* Exports.)
 in Alaska, notes, 1898, 517.
 value of exports to different countries, 1895, 547.
- Onobrychis sativa* (sainfoin), number seeds per pound, amount to sow, etc., 1894, 570.
- Opatrum intermedium* (beetle), injury to tobacco, 1898, 149.
- Opium, quantity and value of imports, 1891-1895, 1895, 550.
- Opopanax, use for perfumery, 1898, 394.
- Orach, use as a pot herb, 1895, 212.
- Orange and lemon industries of California, protection by entomologist, 1897, 89.
 (*See also* Citrus.)
 making thornless by selection, 1898, 376.
 other citrus fruits, methods of propagation, article, 1896, 471-488.
 budding as a method of propagation, 1896, 477-483.
 chionaspis, appearance and treatment, 1900, 271.
 cuttings as a means of propagation, 1896, 474.
 danger of spotting by resin wash, 1896, 233.
 extraction of oil for perfumery, 1898, 379.
 fertilization, 1894, 193, 194, 195, 198.
 flower waters, production and quality, 1898, 385.
 flowers at New Orleans, strength of odor, 1898, 387.
 manipulation in hybridization, 1897, 387.
 suggestion for saving of waste, 1898, 398.
 fruit worm, investigation, 1898, 31.
 Morelos, need of quarantine against Mexico, notes, 1897, 542-545.
 grafting as a method of propagation, 1896, 485-487.
 groves, Florida, use of velvet beans; losses, 1897, 504, 542.
 hardy, experiments to secure variety, 1898, 265.
 inarching as a method of propagation, 1896, 488.

- Orange insects, fertilization affecting, 1894, 201.
 leaf rust, wheats most resistant, 1898, 262.
 navel, introduction by William Saunders, 1900, 628.
 necessity of gassing for scale insects, 1900, 254.
 notes on hybridization, 1898, 9.
 sooty mold, 1898, 652.
 oil and peel, average annual imports, 1897, 323, 324, 325.
 perfumes, notes on prices, 1898, 385, 386.
 purple scale, remedies, 1894, 574.
 rust mite, and silver mite of lemon, discussion, 1900, 285.
 seedlings used in propagation, 1896, 471.
 sooty mold, treatment, 1894, 578.
 stocks for use in propagation, 1896, 476.
 varieties useful for perfumery; food for cattle, 1898, 385.
- Oranges and lemons and other citrus fruits, work of gardens and grounds, 1897, 188.
 need of more hardy varieties in citrus regions, 415.
 other fruits, diseases, 1900, 730.
 pears, shipments under refrigeration, 1900, 578.
 as affected by nitrogen, 1894, 195.
 estimate of losses in Florida by disease, 1897, 103.
 experiments by Department, 1897, 111.
 imports, values, 1893-1897, 1897, 739.
 injuries by red-bellied woodpecker, remarks, 1900, 295.
 notes on early trade; imports 1860-1897, 1897, 320.
 shipments from Mexico with reference to Morelos worm, 1897, 544.
 quality controlled by fertilization, 1894, 194.
 resistance of hybrids to disease, 1897, 417.
- Orchard brandy, manufacture from pomace, 1898, 315.
 effect of birds, article by F. E. L. Beal, 1900, 291-304.
 fruits, study of diseases by Department, 1897, 110.
 grass, seeds, notes, 1895, 569; 1898, 486.
 time of cutting for seed, 1898, 488.
 unfitness for lawn, 1897, 358.
 harmful birds, discussion, 1900, 302.
 house of Department; construction, 1897, 193.
 importance of cross pollination for fruitage, 1898, 167-180.
 irrigation, general remarks, 1895, 241.
 in valleys of California, 1895, 479.
 method of attracting birds for protection from insects, 1900, 296.
 irrigating, 1900, 509.
 number of trees set by four men in a day, 1900.
 pear, details of planning, 1900, 371, 373.
 directions for plowing, 1900, 376.
 methods of building up soil with fertilizers, 1900, 379.
 time and method of picking, packing, and marketing product, 1900, 391-396.
 pests, Lepidoptera, note, 1900, 297.
 scales, remedies, 1894, 272, 276.
 smudging as protection from frosts, apparatus described, 1895, 155.
 some scale insects, 1894, 249.
 spraying apparatus, 1894, 576; 1896, 69-88, 623.
 in high air as protection from frosts, apparatus described, 1895, 156.
 trees, injury by alternate freezing and thawing, 1895, 157.
 use of water as protection against frost, 1897, 64.
 utilizing the fallen product, 1898, 316.
- Orchardist, classification of pears, 1900, 369.
 need for bees, 1898, 180.
- Orchards and gardens, selection of site with reference to frost, 1897, 63.
 vineyards, growth without rain or irrigation in California, 1897, 436.
 observation on failure to fruit from year to year, 1898, 167.
 pear, of United States, geographical distribution, 1900, 370.
- Oregon and Washington, note on sandy areas and sand binders, 1898, 418.
 character of public lands, their water supply, and irrigation, 1898, 341.
 conditions of growing and yield of wheat, 1900, 533.
 experiments on use of seaside blue grass as sand binder, 1898, 417.
 with flax; interest in flax, 1897, 33, 485.

- Oregon Goat Breeders' Association, organization, 1898, 438.
 investigation of sheep grazing in Cascade Forest Reserve, 1898, 54.
 mention of notes on plants used by Klamath Indians, 1897, 97.
 problem of sheep grazing in Cascade Forest Reserve, 1898, 187.
 public lands, 1898, 326, 330.
 water hemlock, distribution, note, 1900, 311.
- Orgyia leucostigma* (white-marked tussock moth), 1895, 368.
- Orient, exports [from United States], 1900, 68.
- Oriental pears, soils, resistance to leaf blight, 1900, 369, 371, 389.
- Original research and graduate study in agriculture, 1899, 182.
 remarks by Secretary on value, 1898, 47.
- Oriole, Baltimore, and meadow lark, article, 1895, 419-430.
 characteristics, 1895, 419, 426, 430; 1900, 298, 422.
- Ormerod, Eleanor A., remark on work of American economic entomologists, 1899, 155.
- Ornamental plant, note on introduction, 1900, 142.
 plants and flowers, improvement, 1899, 488.
- Ornithology and Mammalogy, Division, exhibit at Atlanta Exposition, 1895, 509.
 organization, duties, 1894, 43, 524; 1895, 524.
 economic, functions of Division of Biological Survey, 1899, 265.
 in United States, review, article by T. S. Palmer, 1899, 259-292.
 summary, 1899, 290-292.
- Orris root, imports of perfume; species of iris for production, etc., 1898, 391.
- Oryzopsis cuspidata* (Indian millet), range and value on alkali soils, 1900, 596.
- Osage orange, localities for successful planting, 1900, 151.
 notes on use for fence posts and as hedge plant, 1900, 148.
- Osborne, method of mechanical analysis of soil, note, 1900, 400.
- Osprey, or fish hawk, food of nestlings, 1900, 430.
- Ostrich, South African, establishment of industry, 1899, 274.
- Otaheite gooseberry, injury by freezes in Florida in 1894-95, 1895, 172.
- Otocoris (*see also* Horned lark), 1898, 230.
- Oven bird, food of nestlings, 1900, 416.
- Owen, David Dale, chemical examination of soils, 1899, 340.
- Owl, barn, notes, 1894, 223.
 barred, burrowing, and screech, notes, 1894, 225.
 great-horned, notes, 1894, 229.
 long-eared and short-eared, notes, 1894, 224.
 snowy, notes, 1894, 226.
- Owls and hawks, diet and relation to fruit growing, discussion, 1900, 299.
 food of nestlings, 1900, 428.
 note on relation to agriculture, 1897, 121.
 study by Biological Survey and bulletin, 1899, 265.
 erroneous ideas concerning their habits, 1896, 628.
 from standpoint of farmer, 1894, 215.
 harmful, 1894, 229.
 harmless species, 1894, 218.
 mostly beneficial, 1894, 220.
- Ox bot, remedies, 1894, 574.
- Oxen and other cattle, number and value in the United States, 1895, 535; 1896, 576, 577. (*See also* Cattle.)
 experiments in feeding with beet pulp, 1898, 216.
 exports to United Kingdom, 1893-1896, 1896, 30.
- Oxygen, compressed, failure to kill anthrax germs, 1899, 119.
 relation of supply in air to growth and decay of weeds, 1898, 196, 197.
 usefulness in soil, 1896, 240.
- Oyster fungus, edible toadstool, description, etc., 1897, 464.
 shell bark louse, notes, 1894, 254.
 remedies, 1894, 574.
- Ozonium auricomum* (fungus), cause of root rot, 1896, 248.

P.

- Pacific coast, characteristic species of scale insects, 1900, 250.
 compared with East as to rainfall, 1897, 608.
 grasses of treeless region, 1900, 594.
 interest in study of forage resources, 1898, 41.
 lack of indigenous fruits, 1897, 305.

- Pacific coast, need of root pruning of evergreens, 1898, 157.
 note on olive culture, 1897, 193.
 peculiar relation of wheat lands to water supply, 1897, 432.
 proposed outlining of life zones, 1898, 33.
 study of diseases of bulbs, 1898, 263.
 use of sea lyme grass in binding sands, 1898, 412.
 wines, medals from Paris Exposition of 1889, 1898, 557.
 railroads, notes on extent of land grants, 1898, 327.
 slope, investigations in agrostology, 1899, 353.
 note on special investigation, 1898, 56.
 States, note on beet sugar, 1899, 57.
 Packages for pears, notes, 1900, 395.
 Packard, A. S., note on work as economic entomologist, 1899, 141.
 Packing and grading of apples, influence of refrigeration, 1900, 572.
 truck produce for market, discussion, 1900, 451.
 curing, gathering of dates, 1900, 481.
 meats and meat products, summary view of business, 1899, 329.
 of Danish butter, notes, 1900, 614.
 pears, notes, 1900, 392.
 Smyrna figs, 1900 95.
 Page, Dr. B. B., experiment of dipping cattle for ticks, 1898, 461.
 E. D., working plan for wood lot, 1898, 301.
 PAGE, LOGAN WALLER, article on "The selection of materials for macadam roads," 1900, 349-356.
 Paine, Halbert, E., efforts for national weather forecasts, 1899, 77.
Paleacrita vernata (spring cankerworm), remedies, 1894, 573.
 Palm, cocoanut, injury by freezes, in Florida in 1894-95, 1895, 171.
 date and its culture, article by Walter T. Swingle (*see also* Date), 1900, 453-490.
 manner of growth, 1900, 453-456.
 PALMER, T. S., article on "A review of economic ornithology in the United States," 1899, 259-292.
 "Extermination of noxious animals by bounties," 1896, 55-68.
 "The danger of introducing noxious animals and birds," 1898, 87-110.
 Palms, cocoanut and date, introduction into United States, 1897, 200.
 Palouse region, growing of wheat, notes, 1900, 532, 533.
 Pammel, Prof. L. H., note on poisoning by water hemlock, 1900, 313.
 Pan-American Exposition, note on proposed exhibit of grasses and forage plants, 1900, 41.
 Medical Congress, remarks by Secretary on proposition, 1899, 64.
Pandion haliaetus carolinensis (osprey), food of nestlings, 1900, 430.
 Panic grass, bitter, as soil binder, 1894, 429.
 grasses, descriptions; suggestions for binding sands, 1898, 414.
Panicum amarum (bitter panic grass), description; suggestion for binding sands, 1898, 413.
 and Chaetochloa, remarks, 1898, 268.
 crus-galli (barnyard grass), crop suitable for alkali soils, 1895, 121.
 species, notes, 1898, 276, 279, 280, 281, 414, 415; 1900, 593.
 virgateum (switch grass), value as a forage plant; analysis, 1895, 314.
 Pansies, hybrid, note on characters, 1897, 410, 418, 419.
Papaver somniferum (poppy) seed, use in producing oil, 1895, 203.
 Paper currency, in United States, kinds and denominations, 1898, 676.
 Paraffin oil, use in destruction of Texas fever ticks on cattle, 1897, 24; 1898, 456.
 Parasites and natural enemies of grain insects, 1894, 278.
 parasitic diseases of animals, notes, 1897, 255.
 as causes of plant diseases, 1899, 191.
 fungi attacking roots, trunk, branches, and leaves of trees, 1896, 247-254.
 hymenopterous, as enemies of scale insects, remarks, 1900, 252.
 imported and predaceous enemies of scale insects, 1896, 222-227.
 of black scale, notes, 1900, 274.
 Blastophagas, fig insects, absence, 1900, 99.
 cowpea weevil, 1898, 245.
 scale insects, note on importation, 1898, 31.
 table, 1894, 254.
 Parasitic diseases, freedom of stock on saltbushes, 1898, 537.
 study of dissemination of germs, 1897, 111.

- Parasitism of fungi, note on articles by T. J. Burrill, 1899, 193.
- Parasol fungus, chantarelle and fairy ring fungus, description, etc., 1897, 463.
- Paris, Agronomic Institute, plan, courses of study, etc., 1900, 116-118.
- Exposition, 1889, award of gold medal to William Saunders, 1900, 629.
 medals for Pacific coast winners, 1898, 557.
 1900, award of gold medal to William Saunders, 1900, 629.
 awards, 1900, 161, 606, 607, 608.
 dairy awards for United States, list, 1900, 733.
 products, article by Henry E. Alvord, 1900, 599-624.
 exhibit of Division of Forestry, 1900, 52.
 Experiment Stations, remarks by Secretary, 1899, 33.
 foods for animals, note, 1900, 41.
 Office of Experiment Stations, 1900, 56.
 lack of cheese exhibits in competition with that from United States, 1900, 615, 616.
 leaf tobacco exhibit, article by Marcus L. Floyd, 1900, 157, 166.
 note on dairy exhibit, 1900, 22.
 horticultural exhibit, 1899, 20; 1900, 36.
 Yearbook of 1899, 1898, 58.
 remarks of Secretary, 1900, 34, 49, 74.
 scale of marking for dairy products, 1900, 602.
 showing as to shipment of fruits under refrigeration, note, 1900, 580.
 statement by the Secretary, 1898, 15.
 tobacco jury and award; and lessons, 1900, 165.
 unsatisfactory provision for temporary dairy exhibits, 1900, 600.
- green as remedy for blister beetles, 1898, 250.
- preparation and use as insecticide, 1894, 574; 1897, 637; 1898, 659; 1899, 146.
- strength of mixture and manner of use on tobacco, 1898, 127.
- use against bean ladybird, 1898, 252.
 leaf roller, 1898, 259.
 bollworm, 1898, 256.
 bud worms, 1898, 134.
 cutworms in tobacco fields, 1898, 141.
 tobacco worms, 1898, 130.
 in spraying pear trees, note, 1900, 389.
- note on shipment of butter, 1898, 15.
- wholesale price of beef and mutton, 1895, 24.
- Park Commission of Washington, William Saunders as member, 1900, 627.
- Parks, "top-dry" of trees explained, 1896, 239.
- Parlatoria pergandei* (chaff scale), description and treatment, 1900, 270.
- Parliament, bill to prohibit importation of live cattle, 1897, 246.
- Parsley seed, use in producing oil, 1895, 204.
 worts, improvement by Vilmorin, 1898, 369.
- Parsnip, development from wild variety by selection, 1896, 104.
 difference from water hemlock, 1900, 311.
 note on improvements by Buckman and others, 1898, 369.
- Parus atricapillus* (chickadee), relation to fruit growing, 1900, 295.
- Paspalum* species, injury, 1897, 366.
- Passenger pigeon, early question of need of protection, 1899, 284.
 notes on extermination, 1899, 268, 269.
 pigeons, table of large flocks, 1899, 270.
- rates, average per mile for several leading railroads and for all railroads, 1899, 849.
 discussion, 1899, 662-663.
 in recent years, 1899, 653.
 of foreign countries, notes, 1899, 663.
 on early railroads, 1899, 648.
 railroads, average per mile, 1898, 728.
- Passer domesticus*, food of nestlings, 1900, 420. (See also English sparrow.)
- Pasteur, explanation of failure to find anthrax bacillus, 1899, 119.
 note on investigations of rabies, 1900, 224.
 treatment, suggestion for establishment in Government service, 1900, 21.

- Pasteurization of milk for children, 1894, 331, 332.
 in various quantities, 1894, 338.
- Pasturage, advantage of regulation in forest reserves, 1898, 187.
 improvement by grazing of goats, 1898, 436.
 in the South, remarks, 1899, 353.
 United States available for goats, 1898, 425.
 soiling or silage, crops, 1899, 625.
 supposed improvement by burning over woodland, 1900, 363.
- Pasture, adaptability of Canadian field peas, 1895, 225.
 and grass, injury by hot wave in July-August, note, 1900, 327.
 grasses in treeless regions of Northwest, discussion, 1900, 593, 597.
 of New Edgland, usefulness for farming turf, 1897, 358.
 plants of alkali soils, discussion, 1900, 595, 597.
 our native, article by F. Lamson-Scribner, 1900, 581-598.
 season and soiling for cows, 1894, 311.
 unsuitableness of alfalfa, 1897, 394.
 use of timothy meadow, 1896, 150, 151.
 woodland for hogs and sheep, note, 1899, 422.
- Pastures in Rocky Mountain region, reclamation by use of native grasses, 1897, 167.
 Texas, note on improvement, 1900, 37.
 temporary on American farm, note, 1899, 616.
 west of Coast Range, richness and characteristic plants, 1900, 586.
 worn-out, cooperative work for improvement, 1899, 29.
- Patent flour, high grade composition, 1897, 682.
 laws, influence on development of agricultural machines, 1899, 319.
 Office, chemistry in agricultural reports, 1899, 231-235.
- Patents on agricultural implements, notes, 1899, 317, 318, 319.
- Pathogenic ferments in the soil, 1895, 84.
- Pathological division, Bureau of Animal Industry, work in vaccination, 1897, 255.
- Pathology and physiology, vegetable, work, article by Albert F. Woods, 1898, 261-266.
- Patrons of Husbandry, advocacy of free rural delivery; organization; directory, 1900, 516, 629, 671.
 aid in general education of farmer, 1899, 181.
 encouragement of libraries, 1899, 511.
 national and State officers, 1898, 624, 625; 1899, 717-719; 1900, 672.
- Pea, chick and field, notes on introduction, 1900, 137, 139, 143.
 field, feeding value; flat, lack of merit, 1897, 503, 504.
 garden, improvement by hybridization, 1899, 485.
 moth, notes, 1898, 257.
 Texas, growth and value as forage, 1897, 508.
 weevil, appearance, method of work, history, and remedies, 1898, 234, 236, 237.
 remedies, 1894, 574.
- Peach and nectarine, objects and methods of pruning, 1898, 164.
 crop, Michigan, shipments in cold storage, 1900, 576.
 curl and peach-leaf rust, treatment, 1894, 578.
 estimate of cost per tree of treatment of leaf curl, 1897, 110.
 industry in South Carolina and Georgia, early development, 1900, 562.
 lecanium, notes, 1894, 270.
 maggot, Bermuda, notes on injury to crop; importation, 1897, 548.
 notes on diseases in 1898, 1898, 652.
 growing indoors, 1897, 194.
 Persian variety, resistance to frost, 1894, 47.
 scale, new, notes, 1894, 265.
 West Indian, introduction into Southern States, 1897, 533.
 table of incubation of rabies in dog, 1900, 235.
 tree borer, remedies, 1894, 574.
- Peaches and plums, notes on diseases, 1900, 731.
 failure of early shipments in chilled cars, 1900, 574.
 treatment for evaporation, 1898, 311.
- Peanut meal, fraudulent use of name, 1897, 424.
- Peanuts, consumption by eating in the United States, 1895, 197.
 culture, notes, 1895, 197.
 notes on imports; statistics of imports, 1870-1897, 1897, 340, 341.
 use in production of oil, 1895, 196.
- Pear and apple, note on tendency to self-sterility, 1898, 167.

- Pear blight, cause and remedy, 1895, 295-300; 1899, 193.
 duration of the attack and methods of treatment, 1895, 298.
 life history of the microbe causing it, 1895, 296.
 note on study, 1899, 18.
 starting points and method of fighting, 1900, 390.
 cactus (*Opuntia englemanni*), liquor made from leaves used in painting canvas for fumigation tents, 1896, 230.
 culture, commercial, article by M. B. Waite, 1900, 369-396.
 diseases, treatment, notes, 1897, 109, 185.
 fruit borer, injuries; notes on life history, 1897, 551.
 leaf blight and pear scab, treatment, 1894, 578.
 notes on blight in 1898, 1898, 652.
 orchard, cultivation, notes, 1900, 375.
 location, cultivation, and fertilization, discussion, 1900, 370, 375, 378.
 preparation of soil, 1900, 372.
 plum, cherry, and apple, objects and methods of pruning, 1898, 162.
 tree, forms of pruning, notes, 381, 387.
 peculiarity of early growth and liability to injury, 1900, 376, 377.
 psylla and slug, remedies, 1894, 574.
 root rot, discussion, 1900, 389.
 trees, experimental work in Department, 1897, 184.
 varieties not fruiting when flowers are covered, 1898, 171.
 Pearl Island, Alaska, note on growing of vegetables, 1898, 520.
 Pears and apples, especially fruitful varieties, 1898, 178.
 oranges, shipment under refrigeration, note, 1900, 578.
 classification as to ripening, 1900, 393.
 cold storage, notes, 1900, 569.
 crosses for improvement, 1898, 168-175, 266.
 distances for planting, discussion, 1900, 372.
 early work by Governor Edwards in improving, 1899, 471.
 Kieffer and La Conte, adaptation to climate by hybridization, 1897, 415.
 notes on origin of well-known varieties; extension of cultivation, 1899, 477-478.
 quinces, and apples, notes on diseases, 1900, 729.
 time for picking, discussion, 1900, 392-396.
 treatment for evaporation, 1898, 311.
 varieties in earliest introduction into this country, 1897, 310.
 more or less completely self-sterile, 1898, 273.
 PEARSON, R. A., article on "Care of dairy utensils," 1896, 431-444.
 Gardner W., observation on conditions in Porto Rico, 1898, 513.
 Peas, acreage devoted to growing seed, 1899, 560.
 and beans, insects injurious, article by F. H. Chittenden, 1898, 233-270.
 attacks of boll on corn-ear worm, 1898, 255.
 black-eyed. (See Cowpea.)
 Canadian field, article by Thomas Shaw, 1895, 223-232.
 experiments in growing from light and heavy seed, 1896, 313, 315, 316.
 exports, 1895, 545, 547.
 fumigation for weevil, 1898, 238.
 grown from light and heavy seed, diagram, 1896, 313.
 imports, 1895, 550.
 notes on varieties, 1896, 105; 1900, 547.
 potash drawn from soil by crop, 1896, 115.
 soil adapted, 1894, 133.
 sugar, note on introduction of new variety, 1900, 143.
 Peaty soils, investigation, note, 1899, 742.
 Pecan, range of growth, notes, 1896, 338; 1897, 661.
 Peck, William Dandridge, first native scientific entomologist, notes on work, 1899, 136, 161.
Pediculoides ventricosus (mite), parasite of weevil, 1898, 245.
 Pedigree in stock breeding, abuse, 1899, 635.
 relation to improvement of stock by breeding, 1899, 634.
Pelargonium, species for manufacture of oil of geranium, 1898, 383.
 Pelicans, food of nestlings, 1900, 434.
 Pennsylvania Horticultural Society library, 1899, 503.
 note on raising of Angora goats, 1898, 435.
 rebate of taxes on forest land, 1898, 185.
 object-lesson road at Warren, 1897, 378.
 report of reduction of tuberculosis, 1898, 119.
 scalp act for birds, note, 1899, 263.

- Pennsylvania State College, organization, agricultural study, 1898, 71; 1899, 179.
 tobacco soils, 1894, 143, 151; 1897, 127.
 University, report of veterinary school on rabies, 1900, 213.
- Pentilia misella*, scale insect enemy, 1894, 253.
- Pentosans, effect upon denitrifying organisms, 1899, 742.
- Perennial rye grass, number seeds in pound, amount to sow, etc., 1894, 569.
- Perfumery, economic considerations in establishment of industry, 1898, 396.
 farming in the United States, article by Edward S. Steele, 1898, 377-398.
 methods of extraction, 1898, 379.
 plants native to the United States, discussion, 1898, 395.
- Peridermium cerebrum* (rust fungus), note on destructiveness to trees, 1900, 200.
- Peridromia saucia*, or cutworm injurious to tobacco, figure, 1898, 140.
- Perilla arguta*, ornamental plant from Japan, note on introduction, 1900, 142.
- Periodicals in library, note, 1899, 44.
- Perique tobacco, curing and use, 1899, 433.
- Perishable goods, safe extreme temperature, 1900, 741.
- PERKINS, GEORGE A., article on "State highways in Massachusetts," 1894, 505-512.
- Perkins, Jacob, construction of ether machine for refrigeration, 1900, 566.
- Permanganate mixture (potassium) remedy for poisoning by camas, 1900, 324.
- Pernicious scale. (See San Jose scale.)
- Persian wheel, use in lifting water for irrigation, 1896, 181.
- Persimmon, Japan, introduction by William Saunders, 1900, 628.
- PETERS, EDWARD T., article on "Influence of rye on the price of wheat," 1900, 167-182.
 R., premium for Angora goats; raising goats, 1898, 433, 435.
- Petit grain oil, production, 1898, 385.
- Petroleum, laws for public lands, 1898, 352.
- Pewee, wood, food of nestlings, 1900, 427.
- Phalacrocorax urile* (cormorant), food of nestlings, 1900, 434.
- Phalaris arundinacea*, number of seeds per pound, amount to sow, etc., 1894, 569.
- Phallin, poison principle of mushrooms, 1896, 145.
- Phasianus torquatus* (pheasant), food of nestlings, 1900, 432.
- Pheasant, Mongolian, food of nestlings, 1900, 432.
 or ring-necked, damage to grain fields, 1897, 352.
- Philadelphia public library, agricultural books, 1899, 507.
 Society for Promotion of Agriculture, proposal for libraries, 1899, 492.
- Philampelus achemon* (Achemon sphinx), notes, 1895, 400.
- Philippine Islands and Porto Rico, public lands, 1898, 349.
 brief account, 1898, 672-673.
 remarks on report on trade, 1899, 45.
- Philippines, experiment station, market for United States, note, 1900, 64, 69.
 feasibility of cultivation of *Isonandra gutta* (rubber plant), 1899, 62.
 note on agricultural possibilities, 1899, 60.
 fauna, and introduction of noxious animals, 1898, 107.
 need of experiment station, 1899, 33.
- Philohela minor* (woodcock), legal killing, 1899, 284.
- Philotrypesis caricae*, parasite of *Blastophaga*, note, 1900, 84.
- Phleum pratense* (timothy), notes on seed, 1898, 485.
 number of seeds per pound, amount to sow, etc., 1894, 570.
- Phoebe, food of nestlings, 1900, 426.
- Phorodon humuli* (hop plant louse), remedies, 1894, 573.
- Phosphate acid, character, 1894, 183.
 as basic slag, 1894, 186.
 rock, amount mined in 1893, value; statistics, 1894, 178.
 constituents, 1894, 179.
 where found, 1894, 177.
- Phosphates, as fertilizer in pear orchard, notes, 1900, 378, 380.
 basic slag, adulteration, 1894, 190.
 cause of availability of phosphoric acid, 1899, 742.
 different, of muck soil, 1894, 189.
 direct application, 1894, 180.
 effect on vegetable soils, 1894, 188.
 Florida, four types, 1894, 178.
 in marls, 1894, 191.
 mineral, as fertilizers, 1894, 177.
 Tennessee, general remarks, 1894, 179.
- Phosphatic deposits of South Carolina, early reference, 1899, 238.
 fertilizer, notes, 1894, 180, 181.
 slags, basic, use, 1897, 82.

- Phosphoric acid and potash, necessity of supply in experiments for nitrogen, 1897, 300.
 available, meaning, 1894, 181.
 cause of availability in phosphates, 1899, 742.
 for orange fertilization, 1894, 198.
 retention by soil in filtering of solution, 1898, 497.
 use with potash as a fertilizer, 1896, 128.
- Phosphorus, early lack of appreciation as plant food, 1899, 212.
- Phragmites communis* (seed), description and characteristics, 1895, 330.
- Phyllodromia germanica* (Croton bug) and *Phyllotreta vittata* (flea beetle), remedies, 1894, 573.
- Phylloxera, destruction of vines in California, 1898, 554.
 grapevine, 1895, 386.
 production of vine capable of resistance, 1897, 399.
 grape, and *P. vastatrix*, remedies, 1894, 573.
- Physical absorption of salts by soils, 1898, 497.
 and chemical investigations of soils, remarks by Secretary, 1899, 28.
 properties of soils, certain, objects and methods of investigating, article by Lyman J. Briggs, 1900, 397-410.
 quality of earths in relation to water, statement by Davy, 1899, 205.
- Physiology and pathology, vegetable, work, article by A. F. Woods, 1898, 261-266.
 of tree growth, 1894, 467.
- Phytolacca decandra* (pokeweed), description and use as a pot herb, 1895, 212.
- Phytoptus oleivorus* (rust mite), citrus fruit mite, 1900, 285.
 foothold at San Diego, Cal., 1896, 222.
- Pianos and organs, wood for construction, 1896, 412.
- Picking and marketing, pears, discussion, 1900, 391.
- Pickles, olive, classes and methods of preparation, 1896, 387.
- PIERCE, NEWTON B., article on "Olive culture in United States," 1896, 371-390.
- Pieris rapæ* (cabbage worm), remedies, 1894, 573.
- Pierre, remarks on value of orange to flower farmer, 1898, 385.
- PIETERS, A. J., article on "Seed production and seed saving," 1896, 207-216.
 "Seed selling, seed growing, and seed testing," 1899, 549-574.
 "Testing seeds at home," 1895, 175-184.
- Pigeon hawk, notes, 1894, 228.
 passenger (*see also* Passenger pigeon), 1899, 268, 269, 270, 284.
- Pigeons, food of nestlings, 1900, 412, 431.
- Pigs, wild, destruction as pest, 1898, 88.
- Pigweed, suggested use as a pot herb, 1895, 212.
- Pike, old Government, maximum grade in crossing Alleghenies, 1900, 186.
- Piles, quantity of wood used, 1896, 405.
- Pinching and disbudding for apple and other fruits, 1898, 162.
 as method of pruning, 1898, 154.
- PINCHOT, GIFFORD, article on "Notes on some forest problems," 1898, 181-192.
 "Progress of Forestry in United States," 1899, 293-306.
 "Work of the Division of Forestry for the farmer," 1898, 297-308.
- Pine and oak, annual growth at Oakland, N. J., 1898, 305.
 belt of Atlantic coast, prevention of fires, 1899, 425.
 note on fungus cause of red-hearted wood, 1900, 205.
 on public lands, notes, 1898, 335, 347, 348.
 planting of forests in New England, 1899, 426.
 single species found in Alaska, 1897, 561.
 strength, 1894, 45.
 use on binding sands, 1898, 411.
 varieties adapted to dry lands in Western States, 1896, 333.
 on waste land, 1896, 327.
 white, note on growth and estimate of yield, 1897, 151.
- Pineapple blight, cause and cure, 1898, 652.
 culture, methods, 1895, 276, 277, 279.
 diseases, 1895, 281.
 experiments with spike disease, 1898, 375.
 fiber, study in Florida, 1897, 230.
 industry in Florida, 1895, 169, 270, 271, 272.
 the United States, articles, 1895, 269, 282.
 mite (red spider), disease of the pineapple, 1895, 282.
 note on production of seed by crossing, 1897, 390.
- Pineapples, consumption and production in the United States, 1895, 269.
 crosses for improvement, 1898, 266.

- Pineapples, gathering and packing, 1895, 281.
 - in ports; cultivation in Florida, 1897, 327, 328.
 - note on improvement by crossing, 1898, 9.
 - parts of United States suited by climate for culture, 1897, 192.
 - quality and quantity in Hawaiian Islands, 1898, 571.
 - varieties grown in Florida, description, 1895, 275.
- Pines and firs, notes on study, 1900, 53.
 - growth on beach-grass plantations at Provincetown, Mass., 1897, 175.
 - ranges, characteristics, uses, and suggestions for growing, 1897, 645, 648.
 - Southern, study by Division of Forestry, 1897, 150.
 - usefulness for planting in arid regions, 1897, 157.
- Pinnated grouse, 1899, 268. (*See also* Prairie hen.)
- Pioneers, attitude toward forest, 1899, 293.
- Pipe smoking tobacco, notes on exhibit of leaf tobacco at Paris Exposition, 1900, 159.
 - use in conveying water for irrigation, 1896, 191.
- Pipilo erythrophthalmus* (towhee), food of nestlings, 1900, 418.
- Piranga erythromelas* (tanager), food of nestlings, 1900, 418.
- Placer mineral claims, notes on laws, 1898, 352.
- Plains, western, rainfall, 1895, 342.
 - soil, 1895, 341.
 - tree planting, article, by Charles A. Keffer, 1895, 341-360.
 - remarks, 1898, 188; 1899, 426.
 - vegetation, 1895, 342.
- Plank roads, remarks on early popularity, 1899, 371.
- Plant and seed introduction, note on section, 1899, 55. (*See also* Seed and plant.)
 - breeders, introduction of new varieties of plants, 1900, 137.
 - note on conference in London, 1899, 19.
 - breeding during nineteenth century, evolution of methods, 1899, 470.
 - early methods, 1899, 468.
 - effect of locality, 1898, 363.
 - in United States, progress, article by Herbert J. Webber, and Ernst A. Bessey, 1899, 465-490.
 - information on selection, 1898, 357, 368, 370.
 - notes on fixation of type, 1897, 408. (*See also* Hybrid.)
 - review of improvements of fruits in nineteenth century, 1899, 475.
 - systematic, beginning, 1899, 469.
 - utilization of hybrids, 1897, 383.
 - work of Division of Vegetable Physiology and Pathology, 1897, 106; 1898, 264; 1900, 34.
 - cuttings, importance of proper selection, 1895, 254.
 - diseases and insect pests in Hawaiian Islands, 1898, 574.
 - beginning of modern research, 1899, 193.
 - early investigations, 1899, 192, 193, 194.
 - estimate of losses in United States; treatment, 1897, 103, 107.
 - in 1899, review, 1899, 750.
 - Hawaii and West Indies, need of investigation, 1898, 19.
 - the United States in 1898, review, 1898, 652; 1899, 750; 1900, 729.
 - progress of treatment, article by B. T. Galloway, 1899, 191-200.
 - relation of plant physiology, 1899, 200.
 - distribution, fundamental principles, 1894, 211.
 - environment, similar effects on different families of plants, 1896, 89.
 - food, ideal ration, 1896, 128.
 - nitrogenous, supply to leguminous plants by bacteria, 1899, 248.
 - note on elements; note on study, 1897, 301, 302, 303.
 - remarks on danger of exporting, 1899, 233.
 - statement by Davy, 1899, 205.
 - study of quantity by Division of Chemistry, 1897, 78.
 - value of lumates, 1895, 136.
 - growing, era, 1899, 581.
 - growth, effect of alkalies, 1898, 536.
 - notes on physiological constant, 1897, 573.
 - requisites, 1894, 165, 176.
 - study of chemistry, 1899, 744.
 - importations, review of successes, 1900, 137.
 - Industry, Office, remarks on establishment; Director, 1900, 36, 76.
 - introduction, commercial, article by Jared G. Smith, 1900, 131-144.

- Plant lice, damage to tobacco, 1898, 144.
 - destruction by use of potash, 1896, 134.
 - importation in nursery stock, 1897, 537.
 - plant bugs and leaf hoppers, notes, 1898, 259.
 - relation of ants, and destruction by woodpeckers, 1900, 292.
- louse, apple root, remedies, 1894, 572.
 - hop, remedies, 1894, 573.
 - wheat, remedies, 1894, 574.
- nutrition, development of principles, by Liebig, 1899, 219.
 - etc., note on study, 1899, 17.
 - mineral theory, remarks, 1899, 221.
 - note on experiments for farmer, 1897, 294.
- pathologist, lack of, 1899, 37, 67.
- pathology, present and future, remarks, 1899, 199.
- poisons, neutralized by heat or alcohol, 1896, 138, 145.
- resources, native, investigation by Division of Botany, 1897, 97.
- varieties, departures from true type, 1896, 105.
 - increased demand for novelties, 1896, 106.
 - influence of environment in origination, article by Herbert J. Webber, 1896, 89-106.
 - mixing as a result of cross fertilization, 1896, 211.
 - selection as a means of developing, 1896, 103.
 - time necessary to fix characteristics, 1896, 104.
 - variations resulting from changed conditions, cultivation, and other causes, 1896, 90, 91.
 - varieties, how to induce them, 1896, 101.
- Plantain, introduction from Europe, 1896, 273.
- Plantains, imports in 1872; imports in 1880-1897, 1897, 326, 327.
- Plantation labor by races in Hawaiian Islands, 1898, 578.
- Planting, cultivating, and fertilizing date palms, discussion, 1900, 472.
 - fruits, distances, 1897, 689.
 - of forests, discussion, 1899, 425.
 - pear orchard, discussion, 1900, 373-374.
 - trees, purposes and sections for profit; future, 1900, 152, 154.
- Plants, agricultural, note as to best food, 1897, 294.
 - as perfumery sources; list, 1898, 378.
 - breeding of hardy sorts, 1897, 414, 416.
 - change in time and uniformity of ripening as result of breeding, 1898, 372.
 - commercial growing under glass; article by B. T. Galloway, 1899, 575-590.
 - cultivated, frosts and freezes as affecting; article by B. T. Galloway, 1895, 143.
 - note on origin, 1898, 369.
 - relation of microorganisms to nitrogen nutrition, 1899, 246-253.
 - dangerous, notes on poisoning, 1898, 197.
 - distribution of selected varieties by Department, 1897, 43.
 - economic, introduction into United States by William Saunders, 1900, 627.
 - effect of cross fertilization in selection for improvement, 1898, 367.
 - elements in soil necessary to growth, 1897, 296.
 - endurance of black alkali in soils, 1898, 501.
 - factors causing disease, 1897, 100.
 - for production of rubber, notes, 1899, 62.
 - semiarid regions, remarks by Secretary, 1899, 60.
 - growth, study of chemical processes, note, 1899, 240.
 - health in greenhouses, article by B. T. Galloway, 1895, 247-256.
 - improvement by selection, article by Herbert J. Webber, 1898, 355-376.
 - of sorts by cuttings, slips, buds, etc., 1898, 372.
 - in North America, geographical distribution, 1894, 203.
 - information on treatment of fungous diseases, 1894, 577; 1895, 587; 1896, 625; 1897, 93, 673-676.
 - methods of hybridizing, 1897, 385.
 - native, on alkali soils, 1898, 537.
 - note on error of Liebig on carbonates in ash, 1899, 222.
 - proof of sexuality, 1899, 469.
 - notes on selection as a means of improvement, 1895, 254, 264.
 - number distributed, 1894, 53.
 - of foreign fruits, introduction into this country, 1897, 198-200.
 - pasture, our native, article by F. Lamson-Scribner, 1900, 581-598.
 - poisonous to stock, notes on study, 1900, 30.

- Plants, proper soil conditions necessary to growth, 1897, 134, 296.
 protection from frosts and freezes, 1895, 152.
 some poisonous, of northern stock ranges, article by V. K. Chesnut, 1900, 305-324.
 statements of Sir Humphry Davy on relation to soil, 1899, 204.
 that grow in alkali soils, notes, 1898, 535.
 trees, and other, pruning, article by William Saunders, 1898, 151-166.
 views of Liebig and others as to supply of carbonic acid, 1899, 220.
 water as a factor in growth, notes, 1894, 165, 166, 168; 1900, 510.
 woody, injuries from alternate freezing and thawing, 1897, 157.
 principles of pruning and care of wounds, article by Albert F. Woods, 1895, 257-268.
- Platanus (buttonwood), satisfactory results from cutting back, 1898, 159.
- Platte River, irrigation possibilities, 1896, 176.
- Platypus compositus* (ambrosia beetle), manner of life and attacks on trees, 1896, 426.
- Playground, children, suggestion for use of vacant lot, 1898, 199.
- Pleuro-pneumonia, contagious, work of Bureau of Animal Industry, 1899, 442.
 expenditures for eradication, 1899, 448.
 experiment by Commissioner of Agriculture as to contagion, 1899, 112.
 experiments and report of Australian commission, 1899, 110.
 fears of foreign governments of introduction, 1897, 244.
 inspection of cattle, notes, 1899, 443, 444.
 investigations in United States, 1899, 111.
 note on importation, 1897, 256.
 of cattle, contagious, discussion, 1899, 109.
 problem, discussion, 1897, 239.
 proclamation of eradication, 1899, 445.
 spread, investigations in Europe, 1899, 109, 110.
 statistics of work of eradication, 1899, 446.
 success of experimental exposures and inoculations, 1899, 113.
- Plodia interpunctella* (meal moth), notes, 1894, 285.
- Plow, mixture for cleaning, 1898, 677.
 necessity for improvement, 1895, 126.
 side hill for road construction, note, 1900, 194.
- Plowing, fall, effect on humus and nitrogen of the soil, 1895, 134.
 for pear orchard, remarks, 1900, 373.
 objects, 1895, 124.
 of pears, of wheat, time and method, 1900, 376, 538.
- Plows, review of improvements, including patents, 1899, 315, 316.
- Plug tobacco, notes on exhibit of leaf tobacco at Paris Exposition, 1900, 159, 160.
- Plum black knot, treatment, 1894, 577.
 curculio, development of use of Paris green, 1899, 148.
 remedies, 1894, 574.
 ground, manner of growth and value as forage, 1897, 505.
 leaf rust, treatment, 1894, 578.
 lecanium, New York, notes, 1894, 272.
 notes on disease in orchard, 1897, 109.
 pear, apple, and cherry, objects and method of pruning, 1898, 162.
- Plums and peaches, notes on diseases for 1900, 1900, 730.
 prunes, imports in 1821, 1897, 313.
 note on excellence of early American varieties, 1897, 306.
 remarks on development, 1896, 304; 1899, 479.
 treatment for evaporation, 1898, 311.
- Plusia brassicae* and *Plutella cruciferarum* (cabbage worms), remedies, 1894, 573.
 injuries to tobacco, 1898, 142.
- Plymouth colonists, use of fish as manure for corn, 1899, 209.
 Rock chickens, origin, varieties, etc., 1896, 445.
- Poa macrantha* (blue grass), value as sand-binding grass, note, 1899, 354.
 pratensis and *P. trivialis* (meadow grasses), number of seeds per pound, amount to sow, etc., 1894, 569.
 species, notes, 1898, 416, 419, 482, 483, 484, 485.
- Pocket gophers, study, 1894, 43.
- Pæcilocystus diffusus* ("suck fly"), injury to tobacco, 1898, 136.
- Poison bait, preparation and use as insecticide, 1894, 575.
 camas, species, habitat, damage to stock, remedies and preventive, 1900, 319-324.

- Poison hemlock, varieties, symptoms and treatment in cases of poisoning, etc., 1896, 142, 143.
 ivy, description, poison constituent and antidote, 1896, 139, 140, 141.
 mushrooms, death cup, appearance, harmful constituent, action, etc., 1896, 144, 145.
 note on danger from bitter almond, 1898, 392.
 precautions in use in spraying, 1896, 87.
 safety from injury in use against insects on tobacco, 1898, 126.
- Poisoning by water hemlock, symptoms, nature of poison, remedies, 1900, 313, 314.
 weeds, cases reported to Department, 1898, 197.
- Poisonous fungi resembling common mushroom, description, 1897, 457.
 plants, article, 1896, 137-146.
 investigation by Division of Botany, 1897, 96.
 on stock ranges, 1900, 30, 305-324.
 some, of northern stock ranges, article by V. K. Chesnut, 1900, 305-324.
 quality of larkspurs, remarks, 1900, 316.
 milky fluid (sap) of fig bush, discomfort and remedies, 1900, 92.
- Pokeweed, description and use as a pot herb, 1895, 212.
- Polar expeditions, international, note, 1899, 86.
- Polariscopes, note on use in grading sugars, 1900, 26.
- Poles for electric lines, notes on number needed annually, 1900, 150.
- Polianthes tuberosa* (tuberoze), growth and use for perfumery, 1898, 394.
- Pollen, early use of mixture in hybridization, 1899, 473.
 prepotency in cross-fertilization, 1898, 175.
- Pollination, cross, experiments with olives, 1896, 382.
 experiment of Gaertner with tobacco, 1897, 402.
 hand, note on experiments with pears, 1898, 172.
 in hybridization of oranges, notes, 1897, 388.
 necessity with Smyrna fig in California, 1897, 318.
 of date palm; keeping of pollen by Arabs, 1900, 476, 477.
 pomaceous fruits, article by M. B. Waite, 1898, 167-180.
- Polyhalite, composition, occurrence and use as a fertilizer, 1896, 121.
- Polyporei, tube-bearing fungi, discussion, 1897, 465.
- Polyporus, species, fungus destructive of trees, manner of injury, etc, 1900, 206, 207, 209.
 versicolor, cause of root rot, 1896, 250.
igniarius (fungus), cause of white rot of oak, 1896, 252.
sulphureus, cause of red rot of oak, 1896, 252.
versicolor, note on injury to trees, 1900, 200.
- Pomace, manufacture of orchard brandy, 1898, 315.
- Pomaceous fruits, pollination, article by M. B. Waite, 1898, 167-180.
- Pomelo, shaddock or grape fruit, usefulness for perfumery, 1898, 385.
 suggestion for crossing with navel orange, 1897, 390.
- Pomological Society, American, rules for naming and exhibiting fruits, 1900, 742.
- Pomology, Division, exhibit at Atlanta Exposition, 1895, 513.
 introduction of African dates into United States, 1900, 459.
 note on distribution of caprifig cuttings, 1900, 82.
 publications, 1895, 622; 1896, 650; 1897, 633; 1898, 607; 1899, 684; 1900, 635, 694.
 review of work for farmer, by G. B. Brackett, 1897, 111-115.
 work, organization and duties, 1894, 46, 525; 1895, 46, 525; 1896, 557; 1897, 51, 621; 1898, 56, 595; 1899, 10, 19-21, 669; 1900, 11, 36-37, 635.
 foreign contributions, 1894, 442.
- Pond's seedling grape, introduction, 1899, 475.
- Ponds for irrigation, construction and use, 1896, 187.
- Poore, Ben: Perley, history of agriculture in United States, 1894, 84.
- Popenoe, E. A., experiments with pear and beans, 1898, 235, 242.
- Poplar, success in systematic lumbering, 1899, 422.
- Poplars, note on value for planting, 1900, 152.
- Poppy, seed, oil, and culture, 1895, 203, 204.
- Population and area of the Hawaiian Islands, 1898, 563.
 center, relation of movement to transportation, 1899, 658.
 of Cuba, note, 1898, 671,
 Philippine Islands, 1898, 672.
- Pork, American, microscopic inspection, 1900, 15, 16.

- Pork, amount exported to United States, 1894, 34.
 classification for inspection, 1898, 24.
 cost of inspection by Bureau of Animal Industry, 1894, 34.
 currency, 1894, 66.
 destruction of American trade by European prohibition, note, 1897, 247.
 diagram showing cuts of meat, 1895, 572.
 exports to Denmark, France, Germany, Italy, and Spain in 1895, 1895, 10.
 United Kingdom, 1894, 17. (*See also* Exports.)
 imports in Great Britain, average price, 1895, 24. (*See also* Imports.)
 United Kingdom, 1894, 14; 1895, 17.
 information on microscopic inspection, 1894, 34; 1896, 21; 1897, 20, 22; 1898, 24, 25; 1899, 462, 564.
 inspection for export, 1896, 19.
 statistics, 1899, 49.
 pickled, freight rates from Western centers to seaports, 1893-1896, 1896, 598.
 products, statistics of inspection in 1898, 1898, 23.
 prohibition of importation by countries of continental Europe, 1897, 229.
 quantity microscopically inspected, 1895, 10; 1897, 248.
 salted (not hams), export to United Kingdom, 1892-1896, 1896, 30.
 trade in Europe, difficulties of reestablishment, 1897, 247.
- Port wine, varieties of grapes, 1898, 559.
- Portland, Oreg., importation of birds, notes, 1899, 288, 289.
- Porto Rican insects, note on study, 1899, 15.
 native, observations on agriculture in Porto Rico, 1898, 507-509.
- Rico, advantages for families of moderate means, 1898, 513.
 agriculture, article by Roy Stone, 1898, 505-514.
 and Cuba, climate and crop services, 1899, 12.
 Hawaii, agricultural experiment stations, 1900, 63.
 Philippine Islands, public lands, 1898, 349.
 as market for United States, note, 1900, 69.
 seen by a United States writer, 1898, 511.
 note on cattle ticks, 1899, 50.
 need of experiment station, 1899, 33.
 possible production of tropical fruits and coffee, 1899, 61.
 Texas fever, 1900, 21.
 present depression accounted for, 1898, 513.
- Portugais Bleu, grape resistant to phylloxera and chlorosis, 1897, 417.
- Portugal, award for cheese exhibit at Paris Exhibition, 1900, 617.
- Portuguese, position in industry of Hawaiian Islands, 1898, 579.
- Portulaca oleracea* (purslane), use as a pot herb, 1895, 213.
- Postal regulations of United States, 1898, 674.
- Post-graduate study, suggestion for opening Divisions of Department, 1898, 11.
 work in agricultural science, lack of opportunities, 1899, 68.
- Post-office regulations, note on effect on seed trade, 1899, 553.
 special agents, reports on rural free delivery, 1900, 526.
- Posts, fence, prospect of steady large demand, 1900, 150.
- Pot herbs (greens), prevalent use in Europe, 1895, 206.
 names and descriptions of principal plants used, 1895, 205-214.
- Potash, amount available in soil, 1896, 116.
 in dry vegetable substances, 1896, 115.
 one acre, 1896, 112.
 of salts used annually for fertilizer, 1896, 119.
 per acre removed by cereal crops, 1896, 114.
 and phosphoric acid, need of supply for nitrogen-fixing experiments, 1897, 300.
 as fertilizer in pear orchard, notes, 1900, 378, 380.
 best kinds for fertilizer, 1896, 127.
 deposits at Stassfurt, Germany, 1896, 117.
 discovery in America possible, 1896, 119.
 distribution in soil and subsoil, 1896, 109, 110.
 early notes on value as plant food, 1899, 213.
 function in agriculture, article by H. W. Wiley, 1896, 107-136.
 influence on decomposition of minerals, 1896, 132.
 injuries to crops by salts, 1896, 129.
 loss during weathering, 1896, 107.
 manufactured compounds for fertilizing, 1896, 122.
 methods of preparing high-grade salts, 1896, 119.

- Potash, origin and location of deposits, 1896, 116.
 in soil, 1896, 107.
 relation to other mineral ingredients in salts, 1896, 109.
 removal from soil by acids like root acids, 1896, 112.
 salts, composition, 1896, 120.
 table showing chemical analyses, 1896, 123.
 solvents, relative activity, 1896, 111.
 sources other than mineral, 1896, 123.
 sulphide, use as fungicide, 1894, 414, 579; 1896, 571; 1897, 676.
 time and method of application as a fertilizer, 1896, 130, 136.
 use as a fertilizer, conclusions, 1896, 134.
 of kainit, etc., as insecticide and fungicide, 1896, 134.
- Potassium, permanganate, remedy for poisoning by larkspur, 1900, 318.
 retention by soil in filtering solution, 1898, 497.
 sulphide for grain smut, 1894, 414; 1896, 496.
 formula for fungicide, 1894, 579; 1897, 676.
- Potato beetle, Colorado, remedies, 1894, 574; 1899, 146.
 blight, manner of attack, 1897, 102.
 rot, and scab, treatment, 1894, 578.
 chemical composition, 1900, 338.
 crop of 1889, relation to supply of food stuffs, 1900, 177.
 improvement from seedlings, 1899, 484.
 increase in yield of starch by hybridization, 1897, 417.
 notes on diseases in 1898, 652.
- Potatoes, acreage in various countries, 1894, 22.
 production and value in United States, 1895, 531, 545; 1896, 571; 1897, 711; 1898, 679; 1899, 763, 769; 1900, 796-801. (*See also Statistics.*)
 as food value, article by C. F. Langworthy, 1900, 337-348.
 cost of transportation to Great Britain, 1894, 23.
 differences in chemical composition from cooking, 1900, 344.
 exports, 1891 to 1895, 1895, 545; 1895, 547. (*See also Exports.*)
 freight rates from Western centers to Atlantic points, 1893-1896, 1896, 598.
 growing in Alaska, 1898, 517.
 imports, 1891 to 1895, 1895, 550. (*See also Imports.*)
 injury by chlorine in fertilizers, 1896, 129.
 method of irrigating, 1900, 509.
 possible dangers from eating, 1900, 348.
 potash withdrawn from soil by crop, 1896, 114, 115.
 prices in New York and England, 1894, 19, 23.
 on farms December 1, 1895, 532; 1896, 573; 1899, 796; 1900, 800.
 wholesale, 1899, 807; 1900, 800.
 shrinkage in storage, 1900, 339.
 soil adapted, 1894, 133.
 statistics, 1895, 531, 532, 545, 547; 1896, 571, 598; 1897, 711; 1898, 679; 1899, 786, 791, 807; 1900, 796-801.
 study of starch yield, 1899, 743.
 sugar beets, and melons, notes on diseases, 1900, 730.
 sweet, soil adapted, 1894, 133.
- Potato-rot fungus, impetus to study of plant disease, 1899, 192.
- Potomac Flats testing grounds for seeds, note, 1900, 29, 30.
- Poulard and durum wheats, resistance to leaf rusts, 1898, 262.
- Poultry, associations, directory, 1898, 615; 1899, 697; 1900, 652. (*See also Chickens.*)
 enemies, note on book, 1899, 263.
 note on sunflower as feed, 1900, 133.
 statistics, 1899, 324.
 use of millet seed, 1898, 288.
- Powell, J. W., estimates of arid lands and of irrigable lands, 1898, 328.
- Power for vehicles, substitution of inanimate for animal form, 1898, 295.
- "Practical Entomologist," note on publication, 1899, 139.
- Prairie chickens, note on feeding habits, 1900, 432.
 falcon, notes, 1894, 228.
 fires cause loss of humus, 1895, 135.
 hen, slaughter and disappearance, 1899, 268, 269.
 hay, remarks on value, 1895, 318.
 region, forage conditions, article by Jared G. Smith, 1895, 309-324.
 habits of robins, note, 1900, 303.
 soils in West, content of soluble salts, 1898, 499.

- Prairies and plains, relation to tree planting, 1897, 156.
 arid, general remarks, 1895, 312.
 coastal, of Texas, location and dominant grasses, 1900, 589.
- Pratt, Zadock, herd improvement, first record, 1899, 392.
- Prays oleællus* (moth), injury to olive trees, 1896, 389.
- Precipitation and temperature, diagrams and tables, 1897, 698, 699; 1898, 640-651; 1899, 737; 1900, 720. (*See also* Rainfall.)
 average, at principal Weather Bureau stations, 1897, 617.
 normal, table by geographic districts, 1887-1896, 1897, 616.
 study in connection with climate and crop service, 1898, 82.
- Preemption laws for public lands, repeal, 1898, 351.
- Prepotency in plant breeding, notes, 1898, 366.
- Preservatives food, use and abuse, article by W. D. Bigelow, 1900, 551-560.
 in foods, scientific information, 1899, 14; 1900, 743-751.
- Preserving, canning and refrigerating, development, 1899, 328.
- President, allotment of Indian lands, 1898, 352.
 letter of Secretary of Agriculture submitting report, 1898, 9.
 proclamation under act of Congress on importation of cattle, 613.
 relation to inauguration of weather service in West Indies, 1898, 84, 85.
 reservation of town sites on public lands, 1898, 353.
- Press, agricultural, dissemination of information regarding, 1899, 229.
 bulletins of experiment stations, notes, 1899, 523, 541.
- Pribilof Islands, collection of birds' eggs, 1899, 271.
- Price movement and variation in supply, 1900, 172.
 of butter, comparison of quotations in England and United States, 1897, 16.
 wheat, 1899 to 1891, comparison showing effect of bad crop outlook, 1900, 179.
 average export, influence of rye crop, etc., 1900, 168, 170, 181.
 establishment at Liverpool, 1897, 275.
 table showing relation of rye crop, 1900, 173.
- PRICE, OVERTON W., article on "Practical forestry in the Southern Appalachians," 1899, 357-368.
- Prices, American apples in England, 1895, 34, 35.
 bacon in England, 1896, 32.
 live stock in England, 1896, 28, 31, 33.
 and production, agricultural, article by George K. Holmes, 1897, 577-606.
 apparent anomalies in relation to supply and demand, 1900, 174.
 farm, 1894, 545; 1895, 536; 1896, 578; 1897, 723; 1898, 692; 1899, 793. (*For* 1900, *see* Corn, etc.)
 lumber, 1896, 414, 415.
 of dates, notes, 1900, 480, 481.
 Department publications, 1896, 39.
 farm products, discussion of depressing influences, 1897, 595.
 potash for fertilizer, 1896, 128.
 statistics, 1894, 534, 545; 1895, 536; 1896, 578; 1897, 723, 749; 1898, 692, 718; 1899, 793, 836; 1900, 854. (*See also* Corn, wheat, etc.)
 wholesale, dressed meats in London, 1895-1896, 1896, 25.
 for principal crops, 1894, 534; 1895, 537; 1896, 579; 1897, 726; 1898, 695; 1899, 799. (*For* 1900, *see* Corn, etc.)
- Prickly lettuce, distribution, 1896, 266, 278, 280.
- Printing, expense under charge of Department branch office, 1896, 41.
 fund, portion subject to order of Secretary of Agriculture, 1897, 206.
 office, Department, statement of work, 1894, 52.
- Prisons, relation to dietary studies, note, 1898, 451.
- "Process" butter, remarks by Secretary on damage to butter market, 1899, 52.
- Production and prices, agricultural, article by George K. Holmes, 1897, 577-606.
- Productiveness and size of plants, increase by breeding, 1898, 370.
- Products and capital, farm, increase, 1897, 580.
 of Hawaiian Islands, discussion, 1898, 566.
 Porto Rico, distribution, 1898, 506.
- Professors in French agricultural instruction, duties, etc., 1900, 127.
- Profichi figs, relation to *Blastophagas*, 1900, 88, 89.
- Progne subis* (martin), food of nestlings, 1900, 417.
- Propagation of dates, notes, 1900, 459.
- Proteid content of plants and fruits, increase by breeding, 1898, 370.
- Proteids of potatoes, note, 1900, 340.
 vegetable, chemical study, 1899, 744.
- Protein in potato, notes on digestibility, 1900, 345.
 range in various feed materials, 1897, 422-424.
 veal, chickens, and fish as source, 1898, 446.

- Protoparce carolina* and *P. celeus* (tobacco worms), description, life history, injuries, 1898, 128-132.
- Protozoa as cause of disease, notes, 1900, 237, 238, 240.
- Provincetown, Mass., description and work upon sand dunes, 1898, 405.
use of marram grass, 1897, 173.
- Prune industry in California, note on growth, 1897, 120.
introduction into Oregon, 1897, 316.
leaf rust, treatment, 1894, 578.
- Prunes and plums, statistics of imports, 1830-1897; notes, 1897, 315, 316.
grading after evaporation, 1898, 312.
- Pruning and care of wounds in woody plants, principles, article by Albert F. Woods, 1895, 257-268.
training of grapes, article by E. G. Lodeman, 1896, 499-542.
winter treatment in small-fruit culture, 1895, 287.
cultivation and climate, influence on citrus insects, 1900, 248.
early suggestions by William Saunders, 1897, 181.
for vegetative growth in woody plants, 1895, 266.
fruit trees, 1895, 263; 1898, 164; 1900, 381-387.
in horizontal arm-spur system of training grapes, 1896, 508.
winter, increase of pear blight, 1895, 299.
method for wall and greenhouse training of grapes, 1896, 533.
natural, 1895, 262.
observations on experiment with neglect of pear, 1897, 184.
occasional ill effects, 1897, 102.
of lemon, note on relation to remedy for scale insects, 1900, 255.
pear orchard, discussion, 1900, 381-387.
roots, 1895, 260.
tops, 1895, 261.
trees and other plants, article by William Saunders, 1898, 151-166.
olive trees, method and purpose, 1896, 380.
purpose with grapevines, 1896, 501.
recipes for grafting wax, 1895, 268.
time for grapevines, 1896, 511.
top of trees in dry seasons, 1896, 244.
use against scale insects in California, 1896, 218.
in producing plant variation, 1896, 102.
young forest trees, 1895, 360.
- Prussia, commission to investigate pleuro pneumonia, 1899, 110.
- Psaltiriparus minimus* (bush-tit), relation to fruit growing, 1900, 296.
- Psychrometer, sling, description and how to use, 1895, 150.
- Psidium cattleianum* (Cattley guava), injury by freezes in Florida in 1894-1895, 1895, 171.
- Psylla, pear tree, remedies, 1894, 574.
- Public control of irrigation, need of adequate system, note, 1899, 602.
domain of the United States, article by Max West, 1898, 325-354.
land, arid, need of reform in management, 1899, 602.
use of money from sale for road building, 1899, 372, 374.
lands, character, discussion, 1896, 558; 1898, 327, 329, 330-349.
laws for sale, 1898, 351.
leasing, discussion by Secretary, 1899, 59.
libraries, agricultural books, 1899, 506-508.
road inquiries. (See Road.)
roads in North Carolina, historical sketch and improvement, 1894, 513.
schools in France, teaching of agriculture, 1900, 125.
supervision and control of irrigation, 1899, 608.
- Publications at agricultural colleges, 1898, 66, 70, 73, 79, 80.
Biological Survey, notes, 1899, 264.
Department as means of education, 1897, 279.
change in method of distribution, 1896, 39.
classes, distribution, payment, 1896, 636; 1897, 627; 1899, 676.
comparison of present with early expense, 1897, 210.
cost and number; price advocated, 1890, 50.
growing demand, 1897, 219, 220; 1899, 45.
increase in number and cost of printing, 1896, 41.
notes, 1895, 616; 1898, 601.
objections to 100-page restriction, 1896, 40.
lists, 1896, 617, 637; 1897, 627; 1898, 602; 1899, 676; 1900, 687.
plates supplied to private parties, 1896, 40.

- Publications, direction by act creating Department, 1897, 205.
 distribution, notes, 1897, 207, 223.
 Division, distribution of publications, beginning, 1896, 41.
 exhibit at Atlanta Exposition, 1895, 517.
 publications, 1896, 650; 1897, 633; 1898, 607; 1899, 684; 1900, 694.
 review of work for farmer, by Geo. Wm. Hill, 1897, 204-220.
 work, organization and duties, 1894, 525; 1895, 57, 525; 1896, 39-42, 558; 1897, 52-56, 621; 1898, 57-59, 595; 1899, 10, 42-44, 669; 1900, 13, 69-72, 635.
 of Department, demand, 1899, 45.
 first divisional, notes, 1897, 213.
 free, notes, 1899, 670.
 gratuitous distribution condemned, 1895, 57.
 hurtful restrictions, 1897, 54.
 miscellaneous, remarks by Secretary, 1899, 43.
 on agriculture, beginning, 1899, 159.
 economic entomology, notes, 1899, 142.
 systematic agrostology, list of most important, 1899, 362, 363.
 private, on grasses and forage plants, 1899, 350.
 recommendations for removal of restriction, 1898, 59.
 relating to dairy herd, list, 1894, 316.
 reprints for private individuals, 1897, 55.
 table showing number issued in five years ending June 30, 1897, 1897, 53.
 total annual issue of Department, 1897, 208.
 Weather Bureau, 1894, 28; 1899, 86.
 work of Department, development, 1897, 208.
Puccinia graminis (black-stem rust), injury to wheat, 1896, 497.
 rubigo-vera tritici (orange leaf rust), notes, 1898, 262.
 Puerto Rico. (*See* Porto.)
 Puffballs, poisonous fungi, description, etc., 1897, 468.
 Puffin, food of nestlings, 1900, 433.
 Puget Sound, investigation of flax region, 1897, 229.
 region, success of flax industry, 1897, 484.
 Pulp feeding in Europe, 1898, 213.
 the United States, 1898, 217.
 of beets, diffusion, analysis, value, 1898, 215.
 Pulse of domestic animals, method of determining, 1900, 740.
 Pump, use in spraying outfit for scale insects, 1900, 255, 256.
 Pumps, irrigation, 1896, 181, 184.
 Purdue University, aid of nature teaching in Indiana common schools, 1898, 18.
 Pure seed investigation, 1894, 389.
 Pure-Food Congress, notes on progress of work, 1900, 24.
 Purity test for seed at Department, 1899, 574.
 Purple grackle, notes, 1894, 233.
 grass, range and value, 1900, 592.
 scale of the orange, remedies, 1894, 574.
 Purslane (pusley) and winter purslane, use as pot herbs, 1895, 213.
 Putrefaction, relations of microorganisms, list of investigators, 1899, 250.
Pyralis farinalis (meal snout-moth), notes, 1894, 286.
 Pyrethrum as insecticide, 1897, 639; 1898, 661.
 preparation and use as insecticide, 1894, 575.
 roseum and *P. cinerariaefolium*, tests in growing for insecticide, 1899, 152.
 table showing decrease of imports; growing in California, 1897, 98, 99.
 use against bean-leaf beetle, 1898, 254.
 Pyroligneous acid, use as food preservative, 1900, 559.
 Pyrosoma, absence from Porto Rican cattle ticks, 1899, 50.
 bigeminum, contagion of Texas fever, 1899, 133.

Q.

- Quail, destruction of weed seed, 1898, 231.
 note on feeding habits, 1900, 432.
 ravages on wheat fields in California, 1897, 352.
 Quaintance, A. L., note on injury to tobacco in Florida by bud worms, 1898, 134.
 report on insect enemies of tobacco, 1898, 121.
 statements regarding "suckfly" *Dicyphus minimas*, 1898, 135.
 Professor, method of poisoning moth of tobacco worm, 1898, 131.

- Quarantine against insects, California system, 1896, 218.
 national, proposed plan, 1897, 529.
 and inspection of animals imported, 1895, 13; 1897, 23, 250; 1899, 457.
 for Texas fever, regulations for transportation of cattle, 1899, 449.
 line against Texas fever, establishment, note, 1898, 453.
 of animals, statistics, 1899, 49.
 imported animals, 1894, 80.
 removal of restrictions for dipped cattle, 1898, 469.
 restrictions for pleuropneumonia, note, 1899, 443.
 season against Texas fever, 1895, 12.
 statistics of inspection and movement, 1900, 17.
 use as means of suppression of Texas fever, 1899, 133.
 to control Texas fever, 1897, 242.
- Quartzites, qualities for road building, 1900, 355.
- Quercus lobata* (California white oak), tree suitable for alkali soils, 1895, 121.
- Quince fruit spot; leaf spot, treatment, 1894, 578.
 note on use as stock for pear, 1897, 184.
 notes on disease in orchard, 1897, 109.
 root, necessity for moisture and relation to pear culture, note, 1900, 276.
- Quinces, apples, pears, notes on diseases, 1900, 729.
 cross pollination, 1898, 178.
- Quiscalus quiscula* (crow blackbird), notes, 1894, 233; 1900, 423.

R.

- Rabbit, ages and periods important in breeding, 1900, 740.
- Rabbits, injury to fruit trees and destruction by birds, note, 1900, 299, 300.
 note on destruction by crow, 1897, 348.
 notes on history and distribution, 1898, 93.
 value for biological test of rabies, 1900, 224.
- Rabies, arrangements in District of Columbia for positive diagnosis, and cases, 1900, 212.
 danger, remarks of Secretary, 1900, 20.
 discussion of existence and early recognition of disease, 1900, 221.
 distribution in United States, remarks, 1900, 212.
 experiments showing transmission between various animals including man, 1900, 223.
 furious, symptoms, 1900, 231.
 investigations in Bureau of Animal Industry, 1897, 24.
 its cause, frequency, and treatment, article by D. E. Salmon, 1900, 211-246.
 misleading proofs of nonexistence analyzed and refuted, 1900, 227, 228.
 prevention, discussion, 1900, 241-246.
 question of spontaneous origin, discussions, 1900, 236.
 statistical notes on frequency and effect of seasons, 1900, 228.
 symptoms and forms, 1900, 230.
 time after bite of dog for appearance of symptoms, 1900, 234.
 virus, form and transmission, note, 1900, 241.
- Races of plants, new, development by selection, 1898, 368.
- Radiation of heat, normal, impediment from conditions in time of hot wave, 1900, 334.
- Radish, development, from charlock by cultivation and selection, 1896, 93.
 everlasting, note on introduction and value, 1900, 140.
 seed, effect of different temperatures on germination, 1895, 178.
 heavy, influence on early development, 1896, 92.
 use in producing oil, 1895, 203.
- Ragan, Prof. W. H., note on employment as special agent, 1898, 57.
- Rail transportation, average rates per passenger mile, 1897, 759; 1898, 728; 1899, 849; 1900, 839.
- Railroad charges in Great Britain, note, 1898, 584.
 cross-ties, timbers most in use, note; planting of trees, 1900, 148, 150, 154.
 extension, effect on crops and values, 1899, 336.
 facilities for public lands, 1898, 332, 334, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345.
 land grants, estimates of area, 1898, 327.
 managers, aim of improvements, 1899, 651.
 mileage, advance with growth of population, 1899, 656.
 rates, cheap, effect upon market for farm products, 1899, 659.
 statistics, 1894, 546; 1895, 553; 1896, 597-598; 1897, 598; 1898, 723; 1899, 653; 1900, 836.
 track, similar constructions in early times, 1899, 644.
 transportation rates, by classes of merchandise, 1897, 755, 756.

- Railroads, charter as turnpikes, note, 1899, 648.
 - consolidation and extension, 1899, 651.
 - curious influences in establishment of gauge, 1899, 652.
 - early, and locomotive building, discussion, 1899, 646.
 - extension, effect on improvement of land, 1897, 579.
 - high rates, small business as cause, 1899, 648.
 - note on tree planting on plains, 1899, 428.
 - steam, introduction and development, 1899, 375.
- Rails and roadbed, early forms and improvement, 1899, 648, 649.
 - steel, introduction and advantages, 1899, 650.
- Railway embankments, note on use of grasses to prevent washing, 1897, 162.
 - Midland, of England, passenger rates, 1899, 663.
 - ties, "life" as a measure of durability of woods, 1896, 401, 402.
 - reckoning number in standing timber, 1896, 416.
- Rain in 1900, relation to growing principal crops, 1900, 697-714.
 - injury to dates by heavy fall, 1900, 468.
 - note on effect on mountain road, 1900, 188.
 - relation to cyclones, 1898, 529.
 - variation in amount, 1897, 615.
- Rainfall, amount necessary in West (*see also* Precipitation), 1897, 124.
 - and seasonal rains in California, 1895, 475.
 - temperature, 1897, 690; 1898, 627; 1899, 720; 1900, 696.
 - relation to flax growing, 1897, 477.
 - reports in climate and crop service, 1897, 67.
 - publication in National Weather Review, 1897, 70.
 - areas east of Rocky Mountains tillable without irrigation, 1897, 612.
 - available for crops in Kansas, Nebraska, and Colorado, 1894, 157.
 - availability on different soils in the United States, 1897, 129.
 - effect on soluble salts in soils, 1898, 498.
 - from storms from Southwest, 1897, 75.
 - in 1895, by months, 1895, 554.
 - arid regions, notes, 1898, 500.
 - Kharkov, Russia, note, 1900, 531.
 - the valleys of California, 1895, 477.
 - interior valley of California, 1898, 82.
 - least, at sixteen stations, April to September, 1897, 614.
 - mean annual and seasonal, table for various Western points, 1897, 438.
 - note on relation to tea culture, 1899, 58.
 - observations of cause by Espy, note, 1899, 74.
 - of crop season, article by A. J. Henry, 1897, 607, 618.
 - problem of distribution, 1897, 436.
 - protection from frost, 1897, 64.
 - question as to increase by forest, 1897, 146.
 - relation to production of wheat, 1900, 532.
 - showing mean annual and seasonal for several Western points, 1897, 430.
 - smallest seasonal to be expected, 1897, 613.
 - table of monthly and seasonal averages, April to September, 1897, 607-612.
 - underground water drainage, 1897, 437.
 - variations in the Hawaiian Islands, 1898, 564.
 - winter, peculiar use by certain Pacific coast soils, 1897, 432.
- Rainier, Mount, note on "streak" of punky timber, 1900, 203.
- Rains, effect on cattle raising in Alaska, 1898, 522.
 - in summer, note on character, 1900, 108.
 - uncertainty on plains from Montana to Texas, 1896, 416.
- Raisin grape, investigation of disease in California, 1897, 106.
 - industry in California, notes, 1898, 554, 560.
- Raisins, imports; statistics, 1897, 312, 313.
 - in California, note on growth of industry, 1897, 120.
 - savings by rain warnings in California, 1897, 65.
- Ramie, after-processes of manufacture, 1894, 457.
 - and flax, comparison, industry in America, 1894, 444.
 - hemp machine, proposed trial, 1897, 33.
 - climate, soil, and culture, 1894, 446.
 - extracting fiber, 1894, 455.
 - flax and hemp, beginning of inquiry, 1897, 225.
 - harvesting the crop, 1894, 452.
 - history and description, 1894, 443.

- Ramie, investigations, direction in fiber office, 1897, 230.
 machines, remarks, 1894, 455.
 methods of decortication, 1894, 445.
 note on propagation and distribution from experimental garden, 1897, 199.
 yield, 1894, 453.
- Ranches, cattle, in Hawaiian Islands, 1898, 574.
- Ranchmen and farmers, volunteer experiments with grasses, 1898, 40.
- Range, great (stock) special conditions, discussion, 1900, 308.
 industries, influence on irrigation, 1899, 604.
 lands, notes on reclamation, 1899, 29.
- Ranges and grasses, need of care, 1900, 598.
 cattle, forage problems, 1897, 42.
 of Southwest, note on overstocking, 1899, 349.
 remarks on improvement, 1895, 322.
 for stock in forest reserves, suggestions for regulation, 1898, 188.
 remarks by Secretary, 1899, 59.
 great stock, conditions favorable to stock poisoning, 1900, 307.
 of Northwest, causes of decrease in stock-carrying capacity, 1897, 168.
 Southwest, investigations by Division of Agrostology, 1897, 170.
- Rapacious birds, some characteristics, 1894, 216.
- Rape, March, note on introduction in California, 1900, 138.
 nativity, culture, description of seeds, 1895, 200.
- Rapeseed (colza) oil, production and use, 1895, 199.
 oil and colza oil, consumption in Europe, 1895, 200.
- Raphanus sativus* (radish) seed, use in producing oil, 1895, 203.
- Raspberries and blackberries, uses and methods of pruning, 1898, 161.
 remarks on improvement, 1899, 480.
- Raspberry culture, 1895, 292.
 note on hybridization with dewberry, 1897, 393.
- Rates, freight, 1895, 553. (*See also* Transportation.)
 and passenger, discussion, 1899, 660.
- Ration, completed, for dairy cow, 1894, 564.
 per cow daily, 1894, 565.
- Rations, calculation for cows, 1895, 564.
 condensed, relation to dietary studies, note, 1898, 451.
 for Army and Navy, utilization of results of nutrition studies, 1899, 412.
 dairy cows, 1896, 359, 610.
 feeding, comparison, 1897, 488.
- Rats and mice, historical notes on common species, 1898, 91, 92.
 destruction in slaughterhouses, methods suggested, 1896, 164.
- Rattle pods, value as forage plants, 1895, 318.
- Rattoons, suckers for propagating pineapples, 1895, 276.
- Rayer, discovery of disease in man from glanders, 1899, 98.
- Reading circle as means of rural education, 1897, 293.
 courses, farmers' methods, purposes, and officials, 1899, 717.
- Reapers and mowers, improvements, including patents, trials, etc., 1899, 318.
- Receipts and expenditures, general statement, 1898, 61.
- Recipes for grafting wax, etc., used in pruning, 1895, 268.
- Records and Editing, Division, work of year, 1894, 50.
- Red clover, discussion of value as crop, 1897, 492. (*See also* Clover.)
 number seeds per pound, amount to sow, etc., 1894, 570.
 seed, notes on study, 1900, 31.
- Desert of Wyoming, discussion, 1897, 169.
- fescue, seed, notes, 1898, 489.
- legged locust, remedies, 1894, 573.
- rot of oak, how produced, prevention, 1896, 252.
- rust proof oats, adaptation to Southern States, 1897, 116.
- salt (fox) grass, characteristics and uses, 1895, 329.
- scale, range in California, 1896, 221.
- scales, distribution, varieties and method of control, 1900, 267, 268.
- shouldered and red-tailed hawks, notes, 1894, 220.
- spider (pineapple mite), disease of the pineapple, 1895, 282.
- spring wheats, fitness for growing in the Dakotas, 1900, 534.
- spruce, rate of growth before and after lumbering, 1898, 665.
- start, food of nestlings, 1900, 416.
- top, distribution and varieties, 1900, 584-585.
 false, or switch grass, value as a forage plant, 1895, 314, 318.

- Red top, number seeds per pound, amount to sow, 1894, 569.
 or herd's grass, notes on usefulness and seed, 1898, 493.
 seed, adulteration, 1898, 481.
 winged blackbird, notes on range and habits, 1897, 349.
- Red-bellied woodpecker, injuries to oranges, remarks, 1900, 295.
- Redfield, generalizations of first essay on storms, 1899, 74.
- Redfield's grass as sand binder, 1894, 433.
 description, use as sand binders, 1898, 417.
- Redwood in California, note on study, 1899, 23.
 note on growth and reproduction, 1899, 21.
 resistance to injury by fungi, 1900, 201.
 range, characteristics, uses, and suggestions for growing, 1897, 655.
- Reed canary grass, notes, 1894, 434.
 number of seeds per pound, amount to sow, etc., 1894, 569.
 common, as soil binder, 1894, 434.
 description and characteristics, 1895, 330.
 Indian, notes, 1894, 433.
 suggestion for use in holding sands, 1898, 420.
- Reformatories, relation to dietary studies, note, 1898, 451.
- Refrigerating, canning, and preserving, development, 1899, 328.
- Refrigeration, development, discussion, 1900, 563-566.
 effect upon usefulness of some choice varieties of apples, 1900, 572.
 in transit, discussion, 1900, 573.
 influence on fruit industry, article by William A. Taylor, 1900, 561-580.
 mechanical, discussion of development, 1900, 566.
 ocean, discussion, 1900, 578.
 of apples, importance, discussion, 1900, 570.
- Refrigerator car, first patent, note, 1900, 574.
 for fruit, description and date of patent, 1900, 575.
 cars, growth of use, 1900, 577.
 chests, use and value in dairy exhibit, Paris Exposition, 1900, 605.
 shipments of truck produce, points to be observed, 1900, 444, 446.
- Regie Governments, kind of tobacco required for trade, 1899, 434.
- Register, Farmers', agricultural magazine edited by Edmund Ruffin, 1895, 500.
- Registers (herd books), set in library, 1897, 221.
- Religious interests at agricultural colleges, notes, 1898, 66, 73, 80.
- Renault and Reynal, statement as to cause of anthrax, 1899, 115,
 investigation of rabies, 1900, 223.
 views as to origin of glanders, 1899, 97.
- Rent of English farms, notes, 1898, 585, 586, 587, 588.
- Reports, annual, of weather stations, extracts, 1894, 125.
- Rescue grass, note on use, 1899, 30.
- Reservations, forest, notes on extent, management, and laws, 1897, 159.
- Reserves, forest, improvement of service, 1899, 752.
 review, 1899, 295.
- Reservoirs and tanks employed in garden irrigation, 1895, 237.
 (in irrigation) remarks by Secretary, 1899, 39.
 irrigation, construction and use, 1896, 188, 189.
- Resin wash for use against scale insects and as fungicide, preparation, 1894, 575, 579;
 1895, 585; 1896, 233; 1897, 639, 676; 1898, 661.
- Retting of flax, savings; details, 1897, 479, 483.
- Rey, Professor, of Lyons, inoculations of sheep with rabies, 1900, 223.
- Reynal and Renault, statement as to cause of anthrax, 1899, 115.
- Rhagodia hastata* and *R. parabolica* (saltbushes), notes, 1898, 543.
- Rhars date offshoots, distribution for trial culture, 1900, 461, 464.
- Rhizobius toowoombæ*, species of ladybird attacking scale insects, 1896, 223.
 ventralis, ladybird enemy of scale insects, 1896, 223, 224; 1900, 274.
- Rhizophora mangle* (mangrove) injury by freezes in Florida in 1894-95, 1895, 172.
- "Rhode Island bent" grass, adulteration of seed, 1898, 481.
 notes on seed, 1898, 494.
 note on progress in road building, 1897, 177.
 object-lesson road at agricultural college, Kingston, 1897, 379
- Rhus radicans*, *R. diversiloba*, etc. (poison ivy), 1896, 139, 140, 141.
- Rib grass, distribution by means of commercial clover seed, 1896, 278.
- Rice Association, American, 1900, 643.
 crop of certain countries, 1899, 782.
 fields, irrigation, 1899, 39.

- Rice from Japan, note on introduction, 1899, 16.
 improved, discussion of introduction by Secretary, 1899, 63.
 Indian, description, 1895, 330.
 Kiushu, notes on introduction, value of importation, 1900, 32, 135.
 lands in Hawaii, public, 1898, 349.
 notes, 1894, 280.
 production in Hawaiian Islands, 1898, 567.
 water weevil, remedies, 1894, 574.
 weevil, injury to groceries, wheat, corn, etc., 1894, 281.
 tobacco, 1898, 148.
 wholesale prices, 1900, 821.
- Richardson, Clifford, note on analyses of flour and bread, 1899, 405.
- Richardson's hawk, notes, 1894, 228.
- Ricinus communis* (castor-oil bean), seed for producing oil, 1895, 190.
- Riley, Charles V., observations as to work for economic entomology, 1899, 140.
 remarks on danger of use of arsenical poisons on fruits, 1899, 147.
 retirement as entomologist, 1894, 41.
- Rinderpest, notes on confusion with anthrax, 1897, 250; 1899, 114.
- Ripening, change of time and uniformity by breeding, 1898, 372.
 harvesting, and drying of Smyrna figs, 1900, 93.
 of dates, discussion, 1900, 478.
- Ripley spike, disease of pineapple, experiments, 1898, 375.
- Rissa tridactyla pollicaris* (kittiwake), food of nestlings, 1900, 433.
- River and flood service of Weather Bureau, 1897, 65.
 stages, note on publication, 1899, 89.
- Rivers, Western, notes on flow, 1899, 39.
- Riverside, Cal., irrigation, 1899, 594.
- Rixford, Gulian P., note on importation of Smyrna fig cuttings, 1900, 80.
- Road, best kind for farming districts, 1895, 490.
 building, Congressional action, remarks, 1899, 374.
 convict labor, 1897, 179.
 in United States, progress, article by Maurice O. Eldridge, 1899, 367-380.
 object; badly constructed roadbed, 1900, 188.
 physical properties important in rock, discussion, 1900, 350-353.
 recent progress, 1899, 749.
- conference, national, plans for steel-track wagon roads, 1898, 291.
- construction, cooperative, article by Roy Stone, 1895, 487.
 progress, 1897, 177.
 in Massachusetts, methods, 1894, 510.
 national and State aid, 1895, 487.
 use of convict labor, 1895, 491.
- corduroy, directions for building, 1900, 196.
- factors determining width, 1900, 189.
- improvement in counties of North Carolina, 1894, 515.
- inquiries, note on material for roads, 1898, 12.
 Office, establishment, 1899, 377; at Atlanta Exposition, 1895, 518.
 letter to agricultural colleges and experiment stations, 1897, 374.
 review of work for farmer, by Roy Stone, 1897, 175.
 publications, 1895, 622; 1896, 650; 1897, 633; 1898, 608; 1899, 684; 1900, 694.
 work, organization, and duties, 1894, 53, 525; 1895, 55, 525; 1896, 557; 1897, 41, 621; 1898, 37, 595; 1899, 10, 40-42, 669; 1900, 13, 53-55, 635.
- law of Massachusetts, miscellaneous provisions, 1894, 506, 509.
- laws, note on study in Department, 1898, 38.
- line, remarks on staking out, 1900, 194.
- maintenance, discussion, 1898, 324.
- making, early experiment on Department grounds, 1897, 202.
- materials, laboratory study; arrangements for analyses, 1900, 27, 54.
 tests, and purposes and location of laboratories in United States, 1900, 355, 356.
 of North Carolina, 1894, 520.
- object-lesson, cost and wearing qualities, 1897, 378.
- parliament, national, central committee, committeemen, 1899, 701.
- traffic, classification, 1900, 354.
- Roadbed and rails, early forms and improvements, 1899, 649.
 of railroad, effect of unyielding support, 1899, 649.

- Roads, advantages of 8 per cent grade, 1900, 186.
 steel track for wagon, 1898, 293.
 and canals, early agitation and effort, 1899, 654.
 vehicles, suggestions for new constructions, 1898, 295.
 best for farmers and farming districts, 1894, 501.
 discussion of proper construction, 1898, 322.
 surfacing, 1898, 320.
 experimental, cooperative work of Office of Public Road Inquiries, 1900, 54.
 first efforts in Massachusetts, 1894, 505.
 for Porto Rico, preference for electric over wagon roads, 1898, 510.
 good country, construction, article by Maurice O. Eldridge, 1898, 317-324.
 favorable influence of rural free delivery, notes, 1900, 526, 527, 528.
 national league, State committeemen, 1898, 620.
 progress of movement in States, 1899, 378.
 grades for bicycle, pleasure driving, and freight traffic, 1900, 184, 185.
 in early days, description by Dickens, 1899, 377.
 Massachusetts, property rights, etc., 1894, 511.
 losses by reason of badness, 1897, 176.
 macadam, selection of materials, article by Logan Waller Page, 1900, 349-356.
 maintenance, 1894, 504.
 mountain, article by James W. Abbott, 1900, 183-198.
 importance of location and suggestions for laying out, 1900, 187.
 need of extra width for heavy hauling, 1900, 190.
 object lesson, article by Roy Stone, 1897, 373.
 interstate and national, 1897, 380.
 of colonists, forced-labor system, 1899, 368.
 Massachusetts, apportionment, 1894, 508.
 proposed, importance of record of traffic preparatory to building, 1900, 353.
 proposition for national system, 1899, 373.
 public, in North Carolina, historical sketch; improvement, 1894, 513.
 remarks on best method of construction on curves, 1900, 193.
 steel-track wagon, article by Martin Dodge, 1898, 291-296.
 tables showing widths and amount of excavation in plowing or picking ground, 1900, 192.
 with steel trackway, cost of material per mile, 1897, 42.
- Robbins, A. M., use of freezing mixture for cold storage, 1900, 565.
- Robin, best report on food, 1899, 263.
 food habits and relation to fruits, 1900, 303, 413.
 golden (Baltimore oriole), distribution and food habits, 1895, 426.
 study of food habits, 1899, 261.
- Rock, difficulties in road making, 1900, 192.
 notes on effect of weathering, 1898, 495.
 selection for road building and physical properties important, 1900, 349, 350-353.
 slide, definition and directions for management in road building, 1900, 195.
 solid, batter for roads; covering, 1900, 189, 197.
- Rocks, methods of determining value in road building, 1900, 355.
 remarks on decay at high altitudes, 1895, 71.
- Rocky Mountain locust, remedies, 1894, 573.
 region, eastern, study of forage problems, 1897, 165.
 freedom from tornadoes, 1898, 533.
 goat's rue as forage crop, 1897, 504.
 improvement of weather service, 1898, 81, 82.
- Mountains, grasses of eastern slope, early report, 1899, 349.
 origin of storms in northern plateau, 1897, 75.
- Roeding, F., importation of Smyrna fig cuttings, 1900, 80, 83.
- Rogers, E. S., production of hybrid grapes, 1899, 476.
- Roller, use in preparing wheat ground, 1896, 490.
 seeding for timothy meadow, 1896, 148.
- Rollers, inutility on mountain roads, 1900, 197.
- Rolling spinifex as soil binder, 1894, 431.
- Roney, H. B., description of colony of passenger pigeon, 1899, 269.
- Roof rats, notes on history and distribution, 1898, 92.
 sash, substitution of fixed roof in greenhouse, 1899, 579.
- Root acids, study of action, 1896, 112.
 crops, composition as feeding stuffs, 1895, 561.
 fertilizing constituents, 1895, 567.

- Root development from light and heavy seed compared, 1896, 318.
 of plant, favorable condition, note, 1900, 397.
 relation to water supply, 1894, 166.
 diseases of plants, 1897, 101.
 grafting of apple trees; experiments, 1895, 47.
 test of methods, 1897, 52.
 use in propagation of citrus fruits, 1896, 487.
 growth, effect on fruit of restriction, 1897, 194.
 hairs in the soil, showing absorption of moisture, 1894, 169.
 mutilation, relation to need of pruning at transplanting, 1898, 155.
 of woody plant, structure and office, 1895, 259.
 pruning, general remarks, 1895, 260.
 usefulness to promote fruit bearing, 1898, 156-157.
 rot in pear tree, discussion, 1900, 389.
 of plants, symptoms, treatment, etc., 1896, 249, 250.
 worm, corn, remedies, 1894, 573.
- Roots, development by cultivation and selection, 1896, 93.
 formation on trees transplanted in fall after loss of leaves, 1898, 156.
 mention of study of asphyxiation, 1897, 111.
 of water hemlock, peculiarities and effect, 1900, 311.
 special growth in swampy grounds to supply oxygen, 1896, 95.
- Rootstocks, and runners, means of spreading weeds, 1896, 264.
- Ropes, strength, note, 1898, 677.
- Rose chafer, description, distribution, remedies, 1895, 396.
 remedies, 1894, 574.
 farming in United States, probable success, 1898, 381, 382.
 varieties used in making attar, 1898, 482.
- Rosemary, use and effect as perfume, 1898, 390.
- Roses and other flowers, figures for quantities sold, 1899, 584.
 improvement by hybridization, 1899, 89.
- Rot of grapes, experiment in garden and grounds to show origin, 1897, 185.
 potato, treatment, 1894, 578.
- Rotation of crops, notes, 1895, 140, 228.
 on English farms, notes, 1898, 585, 586.
- Rotch, A. L., direction of kite ascensions at Blue Hill, 1898, 201.
- ROTH, FILIBERT, article on "The uses of wood," 1896, 391-420.
- Rothamsted, study of nitrogen as plant food, 1899, 247.
- Rothrock, Professor, popular instruction, 1894, 45.
- Rough-legged hawk, notes, 1894, 219.
- Round-leaved saltbush, notes, 1898, 541.
- Royal Agricultural Society, note on visits of members to English farm, 1898, 583.
- Rubber, india, importance of trade, supply, etc., discussion by Secretary, 1899, 61.
 (or wild fig) trees, injury by freezes in Florida in 1894-95, 1895, 172.
 plants, experiments for island possessions, 1899, 56.
 note on growth in Florida, 1898, 14.
- Rue, goat's, note on introduction, 1900, 139.
 officinals goat's, number seeds per pound, amount to sow, etc., 1894, 570.
- Ruffin, Edmund, brief record of public services, 1895, 501.
 experiments in use of marl to increase soil fertility, 1895, 498.
 pioneer in agricultural science, sketch of life by W. P. Cutter, 1895, 495-502.
- Rumex* spp., use as a pot herb, 1895, 209.
- Rural free delivery, advantages of system, discussion, 1900, 522-527.
 establishment of first routes, growth, and appropriations, 1900, 513.
 history of development, 1900, 516-521.
 influence on social life of farmers, note, 1900, 528.
 method of procedure in starting new routes, 1900, 527.
 routes March 1, 1901, 1900, 752.
 industries, advantage of diversification by goat raising, 1898, 438.
 mails, free delivery, article by C. H. Greathouse, 1900, 513-528.
- Rush, W. B., statement on odor of orange flowers at New Orleans, 1898, 387.
- Rushes, value for grazing in Texas, 1897, 171.
- Rusk, J. M., adoption of Farmers' Bulletins for Department, etc., 1897, 215, 216.
 proclamation of eradication of pleuro-neumonia, 1899, 445.
- Russia, butter exhibit at Paris Exposition, 1900, character and awards, 1900, 613.
 character of cheese exhibit at Paris Exposition and awards, 1900, 618.

- Russia, exports of eggs to United Kingdom, 1893-1895, 1895, 30.
 importation of red winter wheat, note, 1900, 135.
 introduction of seeds into United States, 1898, 55.
 wheat crops in cold, semiarid regions, 1900, 531.
- Russian apples, review of introduction into United States, 1897, 189.
 crop failure of 1889, relation to world's bread supply, 1900, 175.
 field pea, note on value, 1900, 137.
 Jews in America, retention of forms of food, 1898, 444.
 methods of wheat culture, lessons (for Americans), 1900, 539.
 oats, barley, spelt, buckwheat, and broom corn, millet, notes on introduction, 1900, 142.
 practice of flax culture, note, 1897, 475.
 thistle, extent and manner of distribution, 1896, 268, 270, 281.
 restraint of spread in California, 1897, 96.
 spread in cities, 1898, 195.
- Russians, introduction of cattle into Alaska, 1898, 520.
- Rust fungi, kinds destructive of trees, 1900, 200.
 in trees, caused by fungi, 1896, 254.
 wheat, black stem, 1896, 497.
 leaf, of plum, prune, and peach, treatment, 1894, 578.
 mite in lemon district at San Diego, Cal., 1896, 222.
 of orange and silver mite of lemon, discussion, 1900, 285.
 wheat, notes on relation to barberry, 1899, 192.
- Rusts, grain, notes for 1898, 1898, 652.
 on loss, kinds, etc., 1898, 262.
- Rutland County, England, note on farm conditions, 1898, 584.
- Rye, area in crop, changes from 1879 to 1889, 1895, 528.
 acreage, production, etc., 1897, 710; 1898, 678; 1899, 762, 768; 1900, 787.
 crop, certain countries, 1899, 779; 1900, 788.
 effect of different temperatures on germination, 1895, 178.
 exports. (*See Exports.*)
 grass as soil binder, 1894, 436.
 crop suitable for alkali soils, 1895, 121.
 Italian and perennial, number seeds per pound, amount to sow, etc., 1894, 569.
 seed, effect of different temperatures on germination, 1895, 178.
 English, notes on harvesting, etc., 1898, 490.
 wild, value as a forage plant, 1895, 318.
 grasses, usefulness in making lawns, 1898, 359.
 imports. (*See Imports.*)
 influence on price of wheat, article by Edward T. Peters, 1900, 167-182.
 in 1899, 1900, 180.
 note on crossing with wheat, 1897, 389.
 potash withdrawn from soil by crop, 1896, 115.
 prices, 1895, 532; 1899, 795; 1900, 792.
 relation of production in Russia and Germany to world's supply, 1900, 172.
 to deficiency of breadstuffs in Europe in 1891, 1900, 171.
 rise in wheat prices in 1896, 1900, 179.
 smuts affecting, 1894, 414.
 statistics, 1895, 532; 1897, 710; 1898, 678; 1899, 762, 768, 785, 790, 792, 798; 1900, 787.
 table showing advance of price in wheat in consequence of short rye crop, 1900, 173.

S.

- Sable Island, destruction of rabbits by cats, 1898, 90.
- Saccatone species, range and value, 1900, 592.
- Sahara, early planting of oases, note, 1900, 474.
 growing and importance of date palm, notes, 1900, 453, 45
- Sainfoin, number seeds per pound, amount to sow, etc., 1894, 570.
- Saint Augustine grass growth as soil binder, 1894, 432.
 Louis, wholesale prices, 1894, 534; 1895, 537; 1896, 579; 1897, 726; 1898, 695; 1899, 799; 1900, 760, 771.
 Lucie grass, value for lawns, 1897, 361.
- Salicornia* (samphire), note on growth, 1898, 536.
- Salicylic acid, use in food preservatives, remarks, 1900, 557.

- Salisbury, J. H., analyses of Indian corn, note, 1899, 236.
Salix purpurea (willow), use as a soil binder, 1896, 338.
 SALMON, D. E., article on "Some examples of the development of knowledge concerning animal diseases," 1899, 93-134.
 "The Federal meat inspection," 1894, 67-80.
 "Rabies; cause, treatment, and frequency," 1900, 211.
 note on establishment of quarantine against Texas fever, 1898, 453.
 review of work of Bureau of Animal Industry for farmer, 1897, 236-258.
- Salm-Reiferscheid, note on early experience regarding rabies, 1900, 222.
Salsola kali tragus (Russian thistle), extent and manner of distribution, 1896, 268, 281.
 Salt content of soil, method of interpreting results in electrical determination, 1900, 408.
 determination in the soils, 1897, 133.
 early use in the preservation of food, 1900, 551.
 effects in air and water on plant growth, 1896, 98.
 grass (alkali grass) notes, 1894, 430.
 distribution and value, 1900, 597.
 red (fox grass), characteristics and uses, 1895, 329.
 species, value in pastures of alkali land, 1900, 595, 596.
 value as a forage plant, 1895, 318.
 grasses, general remarks, 1895, 327.
 Lake City, damage to alkali soils, 1899, 25.
 marshes, area, 1895, 325.
 grasses, article by F. Lamson-Scribner, 1895, 325-332.
 note, 1899, 355.
 note on early use as offensive to insects, 1899, 213.
 River Valley, Arizona, fitness for date culture, 1900, 489.
 of Arizona, civilization, 1899, 599.
 sage, Nuttall's and spiny, description, usefulness, 1898, 545, 546.
 tumbling, notes, 1898, 547.
 sages and saltbushes recommendations for alkali soils, 1898, 550.
 use in scouring dairy utensils, 1896, 440.
 water, effect of use in watering peas, 1896, 98.
 use in drying figs, 1900, 94.
 removing mushroom poison, 1896, 146.
- Saltbush, Australian, chemical study, 1899, 743.
 growth on alkali soil, 1898, 536.
 note on value on alkali; land, 1899, 29.
 scrub and Utah, notes, 1898, 546, 547.
- Saltbushes, American, discussion, 1898, 544, 549.
 and greasewood, analyses, 1898, 538.
 salt sages, recommendations for alkali soils, 1898, 550.
 Australian, crop suitable for alkali soils, 1895, 119.
 experiments in alkali soils, 1898, 537.
 native to Australia, 1898, 539.
 remarks on value, 1899, 359.
 usefulness on alkali soils, conclusions, 1898, 549.
- Salted meat, number packages inspected, 1894, 67, 68.
- Salt-marsh caterpillar, notes, 1898, 258.
 hay, chemical composition, 1895, 332.
- Salts, absorption by soils, 1898, 496.
 alkali. (*See Alkali salts.*)
 how removed from alkali soils, 1895, 119.
 in soil, relative time of washing out, 1898, 498.
 percentage, table showing relation to texture of soils, 1898, 499.
 removed from soil by irrigation ditch, table, 1898, 503.
 soluble, effect of irrigation upon location, 1898, 501.
 in soils and irrigation waters, electrical method of determination, 1900, 406-409.
 translocation and capillary movement of water, note on need of investigation, 1900, 410.
- Salt-spring lands, public, notes on laws; price, 1898, 353.
- Samphire, note on growth on alkali soil, 1898, 536.
- Sample-road construction, interest of good-roads people, 1900, 54.
 roads as means of determining value of material for road building, 1900, 355.
- San Diego, ripening of fruit, 1900, 486.

- San Francisco, market for eggs from Farallones, 1899, 271, 272.
 prices of California wines, 1898, 556.
 rain warnings for raisin districts, 1897, 30.
 wholesale price of wheat, 1897, 727.
- Jose scale, discovery in Eastern United States, 1899, 143.
 investigations of Division of Entomology, 1895, 51.
 notes on study, 1894, 267; 1899, 15.
 remedies, 1894, 574.
 remedy used in California, 1896, 221, 234.
 study by Division of Entomology, 1897, 86.
- Sand and soil binders, list of grasses, 1894, 580.
 binders of seashore, 1894, 425.
 use of grasses, 1894, 421.
- binding and soil-binding grasses, note on proposed investigations, 1900, 38.
 grasses, article by F. Lamson-Scribner, 1898, 405-420.
 discussion, 1897, 173.
 distribution, 1894, 423.
 notes, 1899, 354.
 propagation, 1894, 425.
- blue grass, description; usefulness as sand binder, 1898, 419.
 drifting on Columbia River, 1898, 418.
- dunes, discussion of formation, 1898, 405.
 growth of beach grass and young pines at Provincetown, Mass., 1897, 175.
 tree planting, 1899, 428.
 use of lupines for reclamation, 1897, 504.
- grass, distribution, description, and usefulness as sand binder, 1898, 417, 418.
 long-leaved, as sand binder, 1894, 433.
 value as a forage plant, 1895, 318.
- hills, scheme for tree planting, 1895, 356.
- mechanical separation, 1894, 134-136, 147, 148, 152.
 use for bedding for cattle after dipping, 1898, 461.
- "Sanding," disease of pineapples, 1895, 281.
- Sandpiper, Pribilof, food of nestlings, 1900, 432.
- Sands, work for holding in place, 1898, 406.
- Sandy soil, curvature and pressure of water content, 1898, 402.
 soils, in vacant lots, use of clovers, 1898, 199.
- Sang, French name of anthrax, 1899, 115.
- Sanitarians, collection of climatic data, 1894, 120.
- Sanitary boards, secretaries and State veterinarians, 1898, 616; 1899, 698; 1900, 653.
 State, withdrawal from dipping experiments, 1898, 461.
- Sannina exitiosa* (peach-tree borer), remedies, 1894, 574.
- Santa Barbara Islands, danger to vegetation from goats, 1898, 89.
- Sapodilla, injury by freezes in Florida in 1894-95, 1895, 172.
- Sapsuckers, yellow-bellied, food of nestlings, 1900, 427.
- Sarcobatus vermiculatus* (greasewood), notes, 1898, 548.
- Sarrans, veterinarian, symptoms of epidemic disease near Toulouse, 1899, 106.
- Sassafras, notes on distillation and use of oil, 1898, 395.
- Satin leaf, injury by freezes in Florida in 1894-95, 1895, 172.
- Satinwood, injury by freezes in Florida in 1894-95, 1895, 173.
- SAUNDERS, WILLIAM, article on "Pruning of trees and other plants," 1898, 151-166.
 biographical notice by the Editor, 1900, 625-630.
 brief chronology of life, 1900, 630.
 establishment of grass garden, 1899, 348.
 improvement of wheat, 1899, 487.
 introduction of improved greenhouse construction, 1899, 580.
 note on death, 1900, 42.
 laying out Department grounds, 1899, 66.
 review of work of Experimental Gardens and Grounds, 1897, 180-204.
- Sausage skins, imports, 1891-1895, 1895, 548.
- Savings from Department appropriations, 1893-1895, 1896, 9.
- Saw-toothed grain beetle, notes, 1894, 287.
- Sayornis phoebe* (phoebe), food of nestlings, 1900, 426.
- Scab of apple, treatment, 1894, 577.

- Scab of pear and potato, treatment, 1894, 578.
 tree, discussion, 1900, 387.
 sheep, danger of importation, cause and prevention, 1897, 251.
 efforts to control and number of inspections, 1897, 25; 1900, 18.
 remarks by Secretary, 1899, 50.
- Scale, black, discovery of male, remarks, 1900, 274.
 English walnut, notes, 1894, 264.
 fluted, remedies, 1894, 573.
 greedy, notes, 1894, 261.
 insect and mite enemies of citrus trees, article by C. L. Marlatt, 1900, 47-290
 insects, citrus, classification and characteristics, 1900, 262.
 species considered, 1894, 251.
 natural enemies; direct control, 1900, 251, 254.
 effect of high temperature; periodicity, 1900, 249.
 enemies, imported and predaceous, 1896, 222, 227.
 general life history and habits, 1894, 250.
 importation in nursery stock, 1897, 537.
 large, note on introduction of parasite, 1898, 31.
 method of use of hydrocyanic acid gas for destruction, 1897, 638.
 natural enemies, 1894, 252.
 of the orchard, 1894, 249.
 on citrus fruits, remedy, 1897, 188.
 species characteristic of Florida and the Pacific coast, 1900, 250.
 table of parasites, 1894, 254.
 use of hydrocyanic acid gas, notes on use, 1899, 151.
 varieties in California, 1896, 220, 222.
- naked or unarmored, enemies of citrus trees, discussion, 1900, 271-290.
- new peach, notes, 1894, 265.
- peach and San Jose, probable origin, 1897, 533, 534.
- purple, of the orange, remedies, 1894, 574.
- San Jose, investigation of spread, 1897, 38.
 investigations of Division of Entomology, 1895, 51.
 notes, 1894, 267.
 remedies, 1894, 574.
 study by Division of Entomology, 1897, 86.
- white or fluted, destruction, note, 1899, 153.
- Scales, armored, necessity for strong washes, 1900, 264.
 orchard, preventives, 1894, 276.
 remedies, 1894, 272.
- Scheele's Green, preparation and use as insecticide, 1898, 659.
- Schizoneura lanigera* (apple-root plant louse), remedies, 1894, 572.
- Scholarships at agricultural colleges, 1898, 66; 1900, 674-686.
- Schönite, composition and use, 1896, 122.
- School, district, suggestion of location of agricultural library, 1899, 493, 512.
 for instruction in meteorology, 1899, 81, 82.
- Schools, agricultural, early establishment, 1899, 225.
 analysis of enrollment with reference to agricultural education, 1897, 289.
 city, use of weeds on vacant lots, 1898, 196.
 common, instruction in meteorology, 1899, 83.
 note on nature study, 1898, 12.
 observations by Secretary on nature teaching, 1898, 16.
- of agriculture, national, in France, number and character, 1900, 118, 123.
 of high-school grade, need, 1897, 288.
 secondary courses, 1899, 188.
 organization, 1899, 177.
- public, of France, teaching of agriculture, 1900, 125.
- relation to dietary studies, note, 1898, 451.
- rural primary, in France, note on gardens, 1900, 126.
- veterinary, establishment of first, dates and places, 1899, 96.
- SCHRENK, HERMANN VON, article on "Fungous diseases of forest trees," 1900, 199-210.
- Schwarz, E. A., observations on Blastophagas in California, 1900, 87, 88.
- SCHWEINITZ, E. A. DE, article on "Butter substitutes," 1895, 445-452.
 "Some modern disinfectants," 1896, 255-262.
 "The pasteurization and sterilization of milk," 1894, 331-356.
 "The preparation and use of tuberculin," 1898, 111-120.

- Science, agricultural, a pioneer (Edmund Ruffin), article by W. P. Cutter, 1895, 493.
 application to agriculture, 1897, 291.
 bachelor, subjects for course in agricultural colleges, 1899, 176.
 natural, books in library, 1897, 222.
- Sciences related to agriculture, provision for teaching, 1899, 184.
- Scientific agriculture at middle of century, discussion, 1899, 218-224.
 relation to progress in production, 1897, 605.
 and technical publications, distribution, 1897, 207.
 reports, note on distribution, 1898, 57; 1899, 676.
 assistants in agriculture, how secured by French ministry, 1896, 548.
 exploration, note on work of Department, 1898, 10.
 farming, note on change in system of agriculture, 1899, 246.
 or systematic agrostology, review of work, 1899, 362-366.
 problems in meteorology, note on study in Weather Bureau, 1899, 82.
 research by experiment stations, 1899, 523.
 reaction of Department nutrition investigations, 1899, 414.
 training in Department, remarks by Secretary, 1899, 67.
 work, duties of proposed office of director, 1896, 14, 15.
 necessity of settled policy in Department of Agriculture, 1896, 14.
 need of director in Department of Agriculture, 1896, 13.
 ratio to other work in Department of Agriculture, 1896, 13.
- Scientists, Department, their work, 1897, 12.
- Scions, length and insertion in citrus-fruit grafting, 1896, 485.
- Scleroderma vulgare*, poisonous fungus, description, etc., 1897, 469.
- Scolytus rugulosus* (fruit bark-beetle), remedies, 1894, 573.
- Scotch broom, use in binding sands, 1898, 411.
- Scotland, number of head of cattle in, June, 1895, 1895, 18.
- Scott, Col. R. H., statement as to raising Angora goats, 1898, 434.
- Screech owl, food of nestlings, 1900, 430.
 notes, 1894, 225.
- Screens, use in protecting plants from frosts, 1895, 153.
- Screw worm, remedies, 1894, 574.
- SCRIBNER, F. LAMSON, article on "Grass gardens," 1895, 301-308.
 "Grasses as sand and soil binders," 1894, 421-436.
 "Grasses of salt marshes," 1895, 325-332.
 "Lawns and lawn making," 1897, 355-373.
 "Our native pasture plants," 1900, 581-598.
 "Progress of economic and scientific agrostology," 1899, 347-366.
 "Sand-binding grasses," 1898, 405-420.
 note on work on plant diseases, 1899, 194.
 review of work of Division of Agrostology, 1897, 160-175.
- Scurfy bark louse, notes, 1894, 259.
- Scutch mills, share in flax industry, 1897, 481.
- Scutellista cyanea* (chalcid fly), enemy of black scale, notes on introduction, 1900, 274, 275.
- Sea, effects on variation of plants, 1896, 98.
 grape, growth on seaside dunes and under cultivation, 1896, 98.
 injury by freezes in Florida in 1894-95, 1895, 172.
 island cotton, improvement by selection, 1898, 358.
 notes on origin and extension of growth and value, 1897, 117.
 practice of growers in improvements, 1898, 362.
 islands storms, damage, 1894, 123.
 lyme grass, description; use in binding sands; seeds, 1898, 412, 413.
 upright, notes, 1894, 428.
 relation to direction of breezes, 1900, 110, 111.
 spear grass, notes, 1895, 328, 330.
 water, production of potash through geologic changes, 1896, 117.
- Seashore sand-binding grasses, 1894, 425.
- Seaside blue grass, description; use in binding sands, 1898, 416.
 oats, description; use in binding sands, 1898, 415.
- Seasonal changes, note on value of (probable) discovery, 1899, 85.
- Seasons, effect upon development of rabies, 1900, 228.
- Seattle, Wash., method of lawn making, 1897, 370.
- Seaweed as fertilizer, note on early use, 1899, 211.
 value for manurial purposes, 1895, 94.
- Second-foot, in irrigation, definition, 1897, 640.

- Secretary of Agriculture, approval of road making as object lesson, 1897, 375.
 Assistant, duties, 1894, 523; 1895, 523; 1896, 555; 1897, 619; 1898, 593; 1899, 667; 1900, 633.
 authority to contract for telegraph service, 1899, 84.
 direction for investigation of forage plants, 1897, 173.
 duties, 1894, 523; 1895, 523; 1896, 555; 1897, 619; 1898, 593; 1899, 667; 1900, 633.
 letter asking reports of work from divisions, 1897, 59.
 method of authorization of publications, 1897, 208.
 offer to test grass and clover seed, 1898, 482.
 office, publications, 1898, 1898, 602; 1899, 677.
 orders for West Indian weather service, 1898, 84.
 recommendations, 1896, 13, 24, 35, 40, 44, 47, 48; 1897, 274; 1898, 22, 44, 46, 49, 51, 54, 56, 58, 59; 1899, 26, 42, 53, 59, 64, 65, 66, 351; 1900, 62, 67, 76, 77, 78.
 relation to importation of cattle, 1898, 613.
 land-grant colleges, 1897, 136.
 report to President, 1894, 9-66; 1895, 9-68; 1896, 9-54; 1897, 9-58; 1898, 9-62; 1899, 9-70; 1900, 9-78.
 share of printing fund, 1897, 206.
 summary of plans and policies of Department, 1897, 58.
- Secretary of the Interior, duties and powers as to public lands, 1898, 354.
 relation to agricultural colleges, 1897, 136.
- Sedge (creek sedge, or thatch), characteristics and uses, 1895, 328.
 grasses in red prairies of Texas, note, 1900, 589.
 slender broom, note, 1895, 327.
- Sedges, usefulness for grazing in Texas, 1897, 171.
- Seed and plant introduction, distribution of caprifig cuttings, 1900, 104.
 division, introduction of dates from Sahara, 1900, 460.
 remarks of Secretary on value, 1900, 33.
 Section, remarks of Secretary, 1900, 31.
- balls of beet, special care needed in testing, 1895, 181.
- bed, farm nursery, forms of shade, 1896, 330.
 for flax, importance of method of preparation, 1897, 475.
 preparation and protection for orange planting, 1896, 473.
- beds of tobacco, protection from cutworms, 1898, 142.
- beet, distribution by Government, 1897, 10.
- benefit of exchanges between different sections, 1896, 93.
- catalogue, development, 1899, 553.
- cleaning apparatus, description, 1894, 408.
 means of escape from weeds, 1896, 276.
- clover and timothy, wholesale prices, 1900, 822, 823.
- collection for testing, 1894, 408.
- conditions of success in home growing, 1896, 215.
- control in Europe, 1894, 394.
 methods, 1894, 395.
- cost of distribution, 1894, 59.
- cotton, various uses of its products, 1895, 187.
- desirability of knowing origin, 1896, 307.
- development of the ovule, 1896, 209.
- difference in results from differences in growing, 1899, 563.
- difficulty of keeping pure for melons, squash, tomatoes, etc., 1896, 214.
- discussion of experiments as to germination, 1896, 322.
 results from planting different sizes, 1896, 314.
- distributed during year, 1894, 58.
- distribution, annual review of work, 1897, 40.
 by Department, for 1897, 1896, 42, 43.
 opinion by Attorney-General, 1895, 58.
 observations by Secretary on work in Department, 1898, 35.
 proposed advance, 1897, 11.
- Division, reasons for not distributing seed, 1895, 58.
 work, duties, 1900, 73, 636.
- drift over frozen ground or snow, 1896, 267.
- eating birds, discussion of benefits, 1898, 221.
- effect of age for melons, 1898, 363.
 plant relationship on value, 1896, 213.
- exchange, effect in tree planting, 1897, 158.

- Seed export trade, 1899, 557.
 exports. (*See Exports.*)
 farms as source of variation of cultivated plants, 1898, 357.
 flax, effect of growing, upon production of flax fiber, 1897, 478.
 for lawn grass, selection, 1897, 362.
 planting, present general theory, 1899, 470.
 germinating apparatus, 1894, 402.
 germination, study of chemistry, 1899, 744.
 time required for test, 1895, 180.
 grass, amount and cost per acre for leading varieties, 1897, 670.
 and its impurities, article by Gilbert H. Hicks, 1898, 473-494.
 classes of impurities, 1898, 480.
 table of number, weight, cost, amount to sow, 1896, 632.
 weight and cost of four mixtures, 1896, 634.
 gratuitous distribution, evils, 1894, 58, 60.
 growing, American, figures showing growth of business, 1899, 559.
 discussion, 1899, 557-564.
 of timothy, 1896, 152.
 profitable, sections and conditions, 1899, 561.
 rapid increase in last forty years, 1899, 558.
 harvest of millets, 1898, 287.
 harvesting, 1899, 564.
 and storage, 1896, 216.
 cowpeas, 1896, 294.
 houses, growth, remarks, 1899, 556.
 importance of selection and ancestry, 1896, 305, 309.
 imports. (*See Imports.*)
 influence of cross fertilization on value, 1896, 209, 210.
 maturity as factor in improvement of plants, 1898, 362.
 investigation and control, necessity, 1894, 389.
 equipments, 1894, 401.
 large, heavy, superior value, article by Gilbert H. Hicks and John C. Dabney, 1896, 305.
 length of flight in wind, 1896, 267.
 methods of production, 1896, 208.
 selection, 1896, 306.
 northern, advantages and objections, 1896, 308.
 objections to home growing, 1896, 214.
 of barnyard millet, note, 1898, 279.
 beach grass, possible supply from Cape Cod, 1898, 411.
 beets, scientific production, 1897, 80.
 Egyptian cotton, note on distribution, 1899, 65.
 flax, profitable production in United States, 1897, 472.
 forage plants, weight and cost of four mixtures, 1894, 571.
 grain, treatment to kill smut spores, 1898, 652.
 grass, distinctions of glume, awn, and stem, 1898, 474, 475.
 millets, notes, 1898, 272, 273, 274, 275.
 seaside oats, suggestion for securing, 1898, 415.
 Turkestan clover, note, 1899, 64.
 plants, groups as seen by seed grower, 1899, 563.
 principles governing selection, 1896, 306.
 production and saving, article by A. T. Pieters, 1896, 207.
 of salt bushes, note, 1898, 538.
 propagation of beach grass, 1898, 410.
 the orange, 1896, 472.
 provision among weeds for flying in wind, 1896, 266.
 pure, investigation, 1894, 389.
 by Division of Botany and saving on purchases, 1897, 94.
 quantities per acre for certain leguminous crops, 1897, 493, 495, 497, 498, 501, 502.
 races, fixation by selection, 1898, 364.
 rate of rolling over frozen ground, 1896, 238.
 root development from different weights, 1896, 318.
 samplers, notes, 1894, 406.
 saving and planting for trees in farm nursery, 1896, 328.
 selection as means of increase of sugar content of beet, 1897, 418.
 manner of conducting experiments, 1896, 310.
 of plants, 1896, 307.

- Seed selling, growing, and testing, article by A. J. Pieters, 1899, 549-574.
 standards, purity and germination, 1896, 623.
 substitution of inferior varieties in distribution, testing, 1898, 35.
 suggestion for improvement by fanning, 1896, 307.
 table of purity and germination for field and garden, 1896, 624.
 tarring as protection against birds, 1897, 352.
 test, amount to be used, 1894, 395.
 before purchase, 1896, 305.
 by Department before distribution, 1896, 42.
 drawing sample, 1894, 396.
 duration of germinating experiment; germinative energy, 1894, 399.
 number of seeds to be germinated, 1894, 398.
 place of germination; previous treatment of seeds, 1894, 398.
 testing, article by Gilbert H. Hicks and Sothoron Key, 1897, 441-452.
 description of apparatus used, 1895, 182.
 discussion, 1899, 570-574.
 germinating apparatus for home work, 1894, 405.
 germination standards, 1895, 183, 184.
 growing interest, 1899, 574.
 laboratory, commercial, note, 1899, 573.
 notes on work of Division of Botany, 1900, 28.
 work in Europe, 1899, 571.
 tests by Department, comments of the Secretary, 1895, 43.
 in distribution by Department, 1899, 56.
 throwing apparatus of weeds, 1896, 265.
 trade, abuses, 1894, 390.
 during first half century, 1899, 552.
 treated for smut, drying for increasing yield, 1894, 418.
 treatment for smut, 1894, 414.
 trees, considerations in leaving, notes, 1900, 368.
 use of different sizes in producing plant variations, 1896, 92.
 value in development of varieties of plants, 1896, 207.
 wheat, selection; experiments as to advantages of large grains, 1896, 495.
- Seeding, manner in making timothy meadow, 1896, 148.
 of wheat, Russian methods, remarks, 1900, 541.
 time for wheat, 1896, 491.
- Seedless fruits, means of production, 1896, 101, 102.
 plants, note as to crossing, 1897, 390.
- Seedling dates of Arizona, notes, 1900, 480.
- Seedlings, ungrafted, use in early fruit culture, 1899, 471.
- Seeds and plants, foreign, remarks on value for introduction, 1900, 132.
 specimens of grasses, note on distribution, 1900, 40.
 as bird food, 1894, 245.
 beet, germination test, 1894, 400.
 Division, duties, 1894, 525; 1897, 622; 1898, 595; 1899, 670; 1900, 636.
 early suggestion of William Saunders for testing, 1897, 182.
 effect of different temperatures on germination, 1895, 178.
 efforts to secure new and rare kinds, 1897, 40.
 examination for purity and vitality, 1894, 44.
 experiments in use in introduction of trees to new climates, 1897, 158.
 exports 1891-1895, 1895, 545.
 to different countries, values, 1895, 547.
 flower, difficulty of testing, suggestions for testing, 1897, 449.
 germinating experiments in progress, 1897, 452.
 test, 1894, 398.
 germination of various kinds, 1895, 176.
 standards, table, 1895, 184.
 grass, germination test, 1894, 400.
 mixtures, weight and cost, 1895, 614.
 how oil is obtained from them, 1895, 185.
 to select samples, 1895, 179.
 imports, 1891-1895, 1895, 550.
 in pears, relation to form of pollination, 1898, 175.
 introduction for proposed new industries, 1897, 10.
 loss by adulteration, 1895, 177.
 methods adopted for testing different kinds, 1897, 446.
 of adulteration, 1894, 391.
 testing, 1895, 177.

- Seeds, notes on tests; notes on introduction, 1899, 16.
 number of samples examined at Zurich, Switzerland, 1894, 394.
 of cinchona, distribution, 1897, 193.
 corn, wheat, etc., effect of soda salts, 1898, 336.
 date, propagation of plants, notes, 1900, 459.
 dates, mangoes, and other imported plants, growth and use, 1897, 199, 200.
 grasses and forage plants, grains in pound, 1894, 569.
 distribution by Division of Agrostology, 1897, 161.
 rare plants, distribution to stations, 1894, 38.
 sea lyme grass, use for food by Indians, 1898, 413.
 weeds, note on method of introduction, 1898, 193.
 oil-producing, article by Gilbert H. Hicks, 1895, 185-204.
 practice of Long Island specialists in selection, 1898, 363.
 relation of sexes in flowers to production, 1896, 208.
 to use of fertilizers, 1896, 131.
 size as related to weight and quality, 1898, 477.
 spread of noxious plants by irrigation, 1896, 179.
 temperature required, 1894, 398.
 test for impurities, 1894, 397.
 testing at home, article by A. J. Pieters, 1895, 175-184.
 weight, cost, and amount to sow per acre, 1895, 612.
 weighing for test, 1894, 401.
- Seedsman's modern catalogue, importance and use, 1899, 555.
- Seedsman, American, varieties of common vegetables in catalogues, note, 1900, 543.
 duty respecting smut, 1894, 419.
 lack of uniformity in ideas of types, 1897, 442.
 methods of seed testing, 1899, 572.
- Seepage from irrigation canals, note on effect in alkali soils, 1899, 25.
 loss of water in irrigation, 1900, 495.
 spots, suggestions for tree planting, 1896, 326.
 water in irrigation, danger and remedy, 1897, 133.
- Sego, poison, use of name for poison camas, 1900, 320.
- Seiurus aurocapillus* (oven bird), food of nestlings, 1900, 416.
- Selection, improvement of plants, article by Herbert J. Webber, 1898, 355-376.
 in plant breeding, limitations, 1898, 368.
- Self-fertilization, comparison with cross fertilization, 1896, 212.
 note on loss of vigor, 1897, 409.
 relation to production of seed, 1896, 209.
- Self-government, irrigation a training, 1899, 610.
- Self-pollination, and cause of sterility, in pears, 1898, 174.
- Self-registering apparatus, note on evolution, 1899, 84.
- Self-sterility, difficulty of classification of varieties of pears, 1898, 173.
- Selling of seed, discussion, 1899, 550-557.
- Semasia nigricana* (pea moth), notes, 1898, 257.
- Semiarid districts of United States, possibility of yearly crop without irrigation, 1900, 530-533.
 prospects and suggestions for wheat, 1900, 533.
 successful wheat growing, article by Mark Alfred Carleton, 1900, 529-542.
 regions, remarks by Secretary on efforts to secure plants, 1899, 60.
- Senate Committee on Manufactures, cooperation of Division of Chemistry, 1900, 26.
- Senators, use of Department publications, 1897, 205.
- Separator, cream, advantages, forms and improvements, 1899, 393, 394.
 plan of creaming milk, superiority, 1897, 511.
- Separators, milk, experiments in removing bacteria, 1895, 431.
- Serradella, note on growth in Pennsylvania, 1897, 504.
- Serum for hog cholera and swine plague, remarks of Secretary, 1900, 18.
 problem of production, 1898, 27.
 lockjaw, ortetanus, note on preparation, 1900, 21.
 treatment for hog cholera, note, 1899, 453.
- Sesame (benne) oil, production and use, 1897, 197.
- Sesamum indicum*, and *S. orientale*, production of oil from seed, 1895, 197.
- Setophaga ruticilla* (redstart), food of nestlings, 1900, 416.
- Setting cream, notes on methods, 1899, 390.
- Sewage, use as a fertilizer, 1895, 84.
- Shad scale, description and qualities, 1898, 544.
- Shaddock, pomelo or grape fruit, usefulness for perfumery, 1898, 385.

- Shade and ornamental trees, diseases, article by B. T. Galloway and Albert F. Woods, 1896, 237.
 fruit and other trees, diseases, 1899, 750.
 relative endurance of trees, 1895, 348.
 tree, insect problem in the eastern United States, article, 1895, 361-384.
 trees, economy of power apparatus for spraying in cities, 1896, 88.
 list of 50 varieties rated for immunity from insect attacks, 377, 378.
 rapidity of spraying, amount of insecticide, etc., 1896, 83.
 successful spraying by steam machines, details, 1896, 78.
- Shade-tree insects, abundance in Eastern cities in 1895, 1895, 361.
- Shading, protection of bark of trees from splitting in winter, 1896, 246.
- Shakers, growing and selling of seeds, 1899, 558.
- Shama millet, or jungle rice, notes on appearance and value, 1898, 279.
- Sharp-shinned hawk, notes, 1894, 232.
- SHAW, THOMAS, article on "Canadian field peas," 1895, 223-232.
- Sheds, employment in culture of pineapples, 1895, 274.
- Sheep, ages and periods important in breeding, 1900, 740.
 American, British markets, 1896, 31.
 amount and value of manure, 1896, 616.
 and cattle from Argentina, 1896, 25.
 industries compared, 1899, 629.
 inspected for export, 1897, 21.
 percentages of losses at sea, 1899, 459.
 goats, danger of injury by running wild, 1898, 89.
 hog pasture, use of woodland, 1899, 422.
 horses, production of anthrax, 1899, 115.
 wool, wholesale prices, 1900, 829, 834.
- antemortem inspections, 1891-1897, 1897, 20.
- breeders' associations, secretaries, 1898, 614; 1899, 694; 1900, 649.
- Canadian field peas as food, 1895, 224.
- danger from poison, 1897, 97.
- determination of age by teeth, 1898, 667.
- export for 1893 to 1896, cost of inspection, 1896, 21, 22.
- exports, 1891-1895, 1895, 543.
 from Ireland to Great Britain, 1895, 1895, 23.
 to different countries, values, 1895, 546.
- feeding standards, Wolff's tables, 1896, 509.
- fondness for salt bush, 1898, 540.
- freight rates Chicago to New York, 1896, 598. (*See also* Freight.)
- general conclusions as to grazing in forests, 1898, 187.
- grazing in forest reserves, investigation, 1898, 34.
 on gray bush, 1898, 344.
- importation for breeding, 1899, 633.
- imported from Canada, 1896, 23.
- imports, 1891-1895, 1895, 548.
- inspected for exportation, 1895, 1895, 11.
- inspection for export, 1899, 456; 1897, 245.
- inspections from United States and Canada for Great Britain, 1898, 25.
- live, shipments, 1896, 27.
- losses by wolves in the West in 1892, 1896, 56.
- note on inspection for export, 1899, 49.
- number and value in United States, 1895, 535; 1896, 577; 1897, 733; 1898, 702; 1899, 818.
 average price, and total value, January 1, 1899, by States, 1895, 535; 1896, 576; 1897, 735; 1898, 704; 1899, 821.
 carcasses inspected, 1892, 1893, 1894, 68.
 imported from Canada, 1895, 13.
 in Great Britain in 1895, 1895, 25.
 inspected, 1891-1897, 1897, 250.
 lost in transit in 1895 and 1894, 1895, 12.
 value, and average price, 1897, 263.
- numbers of inspections, fiscal year 1899, 1900, 16.
- on English farms, notes, 1898, 585, 586, 587, 588.
- percentage of loss in trans-Atlantic shipment, 1896, 22.
- reduction of mortality by use of anthrax vaccine, 1899, 120.
- scab and hog cholera, work of Bureau of Animal Industry, 1899, 452.
 danger of importation from Mexico, prevention, 1897, 251, 255.

- Sheep scab, efforts to control and number of inspections, 1900, 18.
 - eradication, 1897, 25.
 - injury to market for American sheep in England, 1896, 31.
 - remarks by Secretary, 1899, 50.
 - sources of income, note, 1899, 639.
 - statistics of inspection, 1896, 19; 1898, 23; 1900, 17.
 - susceptibility to plant poisoning, note, 1900, 309.
 - test of feeding with beet pulp, 1898, 217.
 - traffic, regulation against sheep scab, note, 1899, 453.
 - use of goats as protection from wolves, dogs, and coyotes, 1898, 423.
 - shad scale as pasturage, 1898, 545.
- Sheep's fescue, number seeds per pound, amount to sow, etc. 1894, 569.
 - seed, notes, 1898, 489.
 - hogs, and cattle, losses by disease in last census year, 1897, 238.
 - milk cheese at Paris Exposition, 1900, notes, 1900, 616, 617, 618, 619, 621, 623.
- Shellac varnish, used in pruning, 1895, 268.
- Shepard, Dr. Charles U., remarks of Secretary on experiments in tea production, 1900, 43.
- Sherry wine, varieties of grapes, 1898, 339.
- Shield budding, propagation of citrus fruits, 1896, 481.
- Shipbuilding, use of wood, 1896, 407.
- Shipment of sheep, measures to prevent spread of scab, 1899, 51.
 - truck produce, discussion, 1900, 441-447.
 - refrigerator, of truck produce, points to be observed, 1900, 446.
- Shippers, value of weather forecasts, 1894, 122.
- Shipping association and auction sale systems of marketing truck produce, 1900, 448.
- Ships for export of cattle, improvement under inspection, 1899, 458.
- Shore birds, food of nestlings, 1900, 432.
- Short-eared owl, notes, 1894, 224.
- Shorthorn cattle, discussion, 1899, 637.
 - early importations, 1899, 632.
- Showers, local, conditions, 1898, 332.
- Shrike, food of nestlings, 1900, 416.
- Shrikes, habits and relations to fruit growing, discussion, 1900, 301.
- Shrubs, flowering, useful and harmful pruning, 1898, 160.
 - in undergrowth of Southern Appalachian forest, names, 1900, 360.
- Sialia sialis* (blue bird), food of nestlings, 1900, 413.
- Siberia, relation to butter industry of Russia, 1900, 613.
- Side oats and blue gramas, remarks, 1899, 357.
 - grama, distribution and usefulness, 1900, 591.
 - hill slopes, table showing widths of roadbed, 1900, 190.
- Signal Corps, transfer of weather service, 1899, 79.
 - Office, transfer of work to Weather Bureau, part of law, 1899, 71.
 - service, establishment of Climate and Crop Bulletin, 1899, 88.
- Signals of Weather Bureau, notes and diagram, 1898, 668.
- Silage, composition of different kinds, 1895, 560.
 - from broom-corn millet, quality, 1898, 289.
 - time of cutting millet, 1898, 286.
 - use of cowpea, 1897, 498.
- Silicic acid, as cause of availability of phosphoric acid, 1899, 742.
- Silk culture, remarks of Secretary, 1900, 77.
 - imports, 1891-1895, 1895, 549.
- Silos, construction and treatment of contents, 1899, 618.
 - different forms, 1899, 619, 620.
 - leaders in introduction in United States, 1899, 617.
 - pioneer attempts at preserving forage, 1899, 616.
- "Silt" group of soils, mechanical analysis, note, 1900, 399.
 - in irrigation, insignificance of value, 1896, 179.
 - mechanical separation, 1894, 134-136, 147, 148, 152.
- Silts, relation of potash to other ingredients, 1896, 109.
- Silvanus surinamenis* (grain beetle), notes, 1894, 287.
- Silver coins of United States, 1898, 676.
 - maple, growth on western plains, 1895, 346.
 - mite of lemon and rust mite of orange, discussion, 1900, 285.
- Simulium pecuarum* (buffalo gnat), remedies, 1894, 573.
- Sinapis alba* (white mustard) seed, use in producing oil, 1895, 203.

- SINCLAIR, ANGUS, article on "Development of transportation in the United States," 1899, 643-663.
- Siphon, use in carrying water for irrigation, 1896, 183.
- Siphonophora avenæ* (wheat plant louse), remedies, 1894, 574.
- Sisal grass, imports, 1891-1895, 1895, 549.
hemp, note on introduction into United States, 1897, 199.
- Siskin, note on eating weed seed, 1898, 229.
- Sitka, agricultural investigations by Prof. C. C. Georgeson, 1898, 30.
experiment station, 1898, 523.
experiments in planting, 1898, 516.
location of Weather Bureau station, 1898, 22.
soil in valley in vicinity, 1897, 560.
- Sitodrepa panicea* (drug-store beetle), injury to tobacco, 1898, 122, 148.
- Six-spotted mite, *Tetranychus sexmaculatus*, discussion, 1900, 281.
- Skagway, Alaska, experiments in planting, 1898, 316.
- Skeletonizer, apple leaf, remedies, 1894, 572.
- Skim milk, discussion of utilization, 1897, 510, 523.
for fowls and live stock, 1897, 515-519.
manufacture and use of new product "faracurd," 1897, 528.
money value in use as fertilizer, 1897, 520.
percentage of fat; composition, 1897, 511.
tank, care at dairy, 1896, 444.
utilization in making by-products of dairy, 1900, 625.
- Skins of goats, notes on importation and value, 1898, 421.
rabbit, note on export from New Zealand, 1898, 93.
- Skylark injuries in New Zealand, 1898, 106.
- Slag, foundation for road, cost, 1897, 380.
- Slags, phosphatic use, 1897, 82.
- Slates, qualities for road building, 1900, 355.
- Slaughterhouses, conclusions as to management and control, 1896, 166.
country, factor in spread of disease, article by Ch. Wardell Stiles, 1896, 155-166.
materials for building, 1896, 164.
notes from field observations, 1896, 156.
preventive methods against spread of disease, 1896, 161.
reply to objections to public control, 1896, 162.
segregation as sanitary measure, 1896, 161.
- Slender broom sedge, note, 1895, 327.
salt bush, notes on growth, appearance, and usefulness, 1898, 341.
- Slender-horned flour beetle, notes, 1894, 288, 289.
- Slide rock, definition and directions for management in road building, 1900, 195.
- Sling psychrometer, description and how to use, 1895, 150.
- Slips, improvement of sorts of plants by selection, 1898, 372.
- Slug, pear tree, remedies, 1894, 574.
- Slugs, damage to tobacco-plant beds, 1898, 144.
- Small fruit culture, choice of location, 1895, 284.
for market, article, by William A. Taylor, 1895, 283-294.
preparation of soil, 1895, 284.
harvesting and marketing, 1895, 289.
manuring, 1895, 285.
planting and cultivation, 1895, 286.
selection of plants, 1895, 289.
varieties for market, 1895, 288.
fruits, diseases, 1899, 751.
- Smallpox, cowpox, and horsepox, relation, 1899, 108.
or variola, discussion, 1899, 102.
ravages and discovery of preventive, 1899, 103.
- SMITH, C. B., article on "Agricultural education in France," 1900, 115-130.
Dr., discovery of parasites of red blood corpuscles in Texas fever, 1899, 131.
- SMITH, JARED G., article on "Commercial plant introduction," 1900, 131-145.
"Cowpeas," 1896, 287-296.
"Forage conditions of the prairie region," 1895, 309-324.
"Forage plants for cultivation on alkali soils," 1898, 535-550.
"Leguminous forage crops," 1897, 487-508.
- Postmaster-General, inauguration of final test of free rural delivery of mails, 1900, 19, 527.
- SMITH, THEOBALD, article on "Some practical suggestions for the suppression and prevention of bovine tuberculosis," 1894, 317-330.

- Smithson, Hugh, proposal to use bequest as aid to agriculture, 1899, 164.
- Smithsonian Institution, display of weather maps, 1899, 77.
- Smoke and fire as a protection against frost, 1895, 155.
 use in preservation of meat, 1900, 551.
 of pyroligneous acid under name, 1900, 560.
- Smoked meat, number packages stamped 1892, 1894, 68.
 packages inspected, 1891, 1894, 67.
- Smoking and manufacturing tobaccos, discussion, 1899, 435.
- Smudging orchards, description of apparatus, 1895, 155.
- Smut diseases in grain, hot water as remedy, note, 1898, 652.
 drying of seed after treatment, 1894, 418.
 in wheat, cause and preventives, 1896, 496.
 loose, of oats, 1894, 412.
 results of experiments for remedies, 1896, 496.
 of barley, treatment, 1894, 577.
 oats, treatment, 1894, 578.
 stinking, of wheat, treatment, 1894, 578.
 treatment of seed increasing yield, 1894, 418.
 to prevent, 1894, 414.
 use of formaldehyde in destroying, 1896, 259.
- Smuts, grain, causes and prevention, 1894, 409.
 notes on destructiveness, etc., 1898, 261.
 of barley, rye, and corn, 1894, 414.
 wheat, corn, etc., notes, 1899, 192.
 stinking, of wheat, 1894, 409.
 wheat, extent of damage, 1894, 410.
- Smyrna fig cuttings, early importations, 1900, 80.
 manner of fertilization by *Blastophaga*, 1900, 101.
 trees in California, remarks on fertilization, 1899, 15.
 figs, development and ripening, 1900, 27, 93.
 note on character; introduction, 1897, 191, 318.
 relation to other figs and extent of trade, varieties, 1900, 94, 105.
- Snout-moth, meal, notes, 1894, 286.
- Snow and ice charts, issue by Weather Bureau, 1897, 68.
 as obstacle on mountain roads, note, 1900, 187.
 lack for logging in Southern Appalachians, notes, 1900, 362.
- Snowfall at high levels, study, 1898, 82.
- Snowflake, note on weed seed found in stomach, 1898, 222.
- Snowstorm of February, 1899, remarks, 1899, 12.
- Snowy owl, notes, 1894, 226.
- Snuff, notes on tobacco at Paris Exposition, 1900, 159, 160.
- SNYDER, HARRY, article on "Humus in its relation to soil fertility," 1895, 131-142.
- Soap and kerosene emulsion formula, 1895, 584.
 as insecticide, 1898, 661.
 bubble, use in illustrating movement of water in soils, 1898, 399, 400.
 formula for kerosene emulsion for insects, 1898, 660.
 preparation and use as insecticide, 1894, 575.
- Soaps as insecticides, 1897, 640.
 kinds unsuitable for dairy cleaning, 1896, 439.
- Social life, effect of irrigation, 1899, 611.
- Societies, agricultural, note on early organizations in England, 1899, 158.
- Society and State board (agricultural) libraries, 1899, 502-504.
- Sod and other perishable materials on roads, warning, 1900, 198.
- Soda salts, absorption by greasewood, 1898, 548.
 experiments on seeds of corn, wheat, etc., 1898, 336.
 removal by round-leaved saltbush, 1898, 542.
- Sodium nitrate, commercial value, 1895, 90.
 consumption for manurial purposes, 1895, 89.
 early notice of value as fertilizer, 1899, 239.
 properties, 1895, 88.
 sulphite, medicinal dose, note, 1900, 557.
- Soft scales, control by use of *Cryptolæmus montrouzieri*, 1896, 226.
 wheats, region of growth, 1896, 492.
 use of flour in manufacture of crackers, 1896, 494.
- Soil, absorption of moisture by root hairs, 1894, 169.
 adapted to culture of *Medica sativa*, 1895, 195.
 sunflower, 1895, 194.

- Soil, adapted to hemp culture, 1895, 216.
 pineapple culture, 1895, 273.
 alkaline, growing of barley and alfalfa, 1900, 473.
 analysis, methods described by Sir Humphry Davy, 1899, 204.
 and climatic conditions, note on effect on varieties of plants, 1897, 383.
 unfavorable, resistance of date palm, 1900, 470.
 drainage, relation to lawn-making, 1897, 365.
 sand binders, list of grasses, 1894, 580.
 season, effect on grass seed, 1898, 477.
 bacteria, injurious, 1899, 252.
 studies, notes, 1900, 24.
 benefit of millets, 1898, 270.
 binders, use of grasses, 1894, 421.
 characteristics, climate, and irrigation methods of California, article, 1895, 475-486.
 conditions affecting availability of potash, 1896, 116.
 benefit of understanding, 1894, 163.
 cause of disease of trees, 1896, 239.
 for trees, 1894, 462.
 of Porto Rico, notes, 1898, 306.
 relation to development of plants, 1897, 134.
 cultivation, meaning of term; when practiced, 1895, 128.
 danger of hardening by use of potash salts, 1896, 131.
 distribution of potash in soil and subsoil, 1896, 110.
 effect of change on plant vigor and variation, 1896, 93.
 growing various crops, 1897, 684-686.
 potash in holding moisture, 1896, 132.
 on quality of potatoes, note, 1900, 346.
 upon growth and system of training grapevines, 1896, 506.
 elements of plant food, 1897, 302.
 examination to determine moisture, 1900, 510.
 experiment on nitrification; elements of plant growth, 1897, 295, 296.
 ferments important in agriculture, article, 1895, 69-102.
 fertility, efforts of Edmund Ruffin to increase, 1895, 496.
 relation of humus, article by Harry Snyder, 1895, 131.
 fertilization as affecting the orange, 1894, 193.
 for pear orchard, preparation, 1900, 372.
 plants in greenhouses, 1895, 249.
 grains, dependence of soluble salts on size, 1898, 499.
 special physical properties, 1900, 398.
 humus. (*See Humus.*)
 importance of problem of water supply, 1897, 429.
 influence of fertility on plant variation, 1896, 94.
 physical character on plant changes, 1896, 93.
 on character of seed, 1896, 308.
 inoculation, problem of use of bacteria, 1899, 249.
 investigations, important, summary, 1899, 345.
 in the United States, article by Milton Whitney, 1899, 335-346.
 physical and chemical, remarks by Secretary, 1899, 28.
 kind and preparation for millets, 1898, 283.
 loss by washing in United States; effect of forest, 1897, 147, 148.
 marl increases fertility, 1895, 499.
 mapping in the East, remarks by Secretary, 1899, 26.
 maps of tobacco districts, 1898, 43.
 methods of improvement, 1897, 491.
 moisture and local distribution of vegetation, 1897, 123.
 depth in arid region, 1884, 159.
 effect on fertilization of orange, 1894, 194.
 in 1898, notes, 1898, 652-694.
 investigation by the Division of Soils, 1897, 130.
 muck effect of fertilizing with different phosphates, 1894, 189.
 necessity of aeration, moisture, and liming to nitrification, 1899, 252.
 need of close planting of trees to improve waste places, 1896, 336.
 nitrates, methods of preserving, 1895, 90.
 nitrification. (*See Nitrification of the soil.*)
 of Cuba, note, 1898, 671.
 irrigation districts of California, 1895, 478.

- Soil of pear orchard, methods of building up, 1900, 379.
 Philippine Islands, note, 1898, 673.
 organisms of different kinds, 1895, 72.
 physicist, proposed study of abandoned farms. 1899, 60.
 physicists, lack, notes, 1899, 37, 67.
 planting of trees for binding, 1896, 337.
 plowing, injurious compacting, 1895, 125.
 potash in one acre, 1896, 112.
 preparation for tree planting, 1894, 484.
 of plant's food, 1897, 294.
 probable injury by burning over woodland to improve pasturage, 1900, 364.
 problems, effect of chemical research, 1899, 341.
 some interesting, by Milton Whitney, 1897, 429-440.
 rate of exhaustion and hold on potash and other fertilizers, 1896, 113.
 reasons for cultivating, article by Milton Whitney, 1895, 123-130.
 relation of aeration to plant health, 1896, 240.
 quality to irrigation, 1900, 492.
 texture to content of soluble matter, 1898, 499.
 to differences in varieties of trees, 1896, 237.
 renovation, efficiency of cowpeas, 1896, 288.
 renovator, note on value of sand lucerne, *Medicago media*, 1900, 140.
 required for ramie, 1894, 446.
 restoration of fertility, 1897, 686-689.
 selection for farm nursery, 1896, 329.
 solubility of particles of varying sizes, 1896, 109.
 structure, remarks, 1900, 402.
 study of chemical composition and physical structure, 1897, 77.
 suitable for early truck, 1894, 130.
 use of "catch crops" to maintain supply, 1897, 300.
 vegetable, effect of fertilizing with phosphates, 1894, 188.
 wick action, 1895, 105.
- Soiling and pasture season for cows, 1894, 311.
 crops, general remarks, 1895, 321.
 note on experiments, 1900, 38.
 growth of practice in the United States, 1899, 615.
 pasturage, or silage, minor crops, 1899, 625.
 use of millet, 1898, 286.
- Soils, adaptation to tobacco, 1894, 144.
 adapted to various vegetables, 1894, 133.
 Agricultural, Division, establishment, 1894, 25.
 organization, work, and duties, 1894, 525; 1895, 525;
 1896, 557; 1897, 44, 621.
 publications, 1896, 638; 1897, 633.
 alkali, forage plants, article by Jared G. Smith, 1898, 535-550. (*See also*
 Alkali.)
 alkaline, cultivation of date palms, 1900, 470.
 analysis, report of Chemist for 1869, 1899, 238.
 and irrigation waters, electrical method of determination of soluble salts, 1900,
 406-409.
 subsoils of Alaska, mechanical analyses, 1897, 559, 560.
 bacteriological investigation, 1899, 341.
 chemical examination, 1894, 46.
 investigation, discussion, 1899, 339.
 classification of soluble matter, 1898, 497.
 collection and experiments at Sitka and other Alaskan points, 1899, 35.
 comparative studies by Division of Chemistry, 1899, 245.
 derivation from rocks, statement by Davy, 1899, 205.
 description of texture from samples from various points, 1897, 439.
 different, need of investigation of use of water for irrigation, 1898, 33.
 Division, annual review of work, 1897, 44.
 observations by the Secretary, 1898, 41-44.
 publications, 1898, 608; 1899, 684; 1900, 694.
 review of work for farmer, by Milton Whitney, 1897, 122-135.
 work, organization, and duties, 1898, 10, 41, 595; 1899, 10, 24, 669;
 1900, 12, 47, 635.
 (early) knowledge of composition and functions, 1899, 203.

- Soils, effect of dryness on pressure in water content, 1898, 402.
 sea water, composition, 1899, 743.
 for dwarf and standard and for Oriental pears, notes, 1900, 371.
 granitic and slate, notes on growing of rape, 1900, 138.
 importance of arrangement of grains to health of plant roots, 1897, 101.
 temperature and methods of measurement, 1900, 404.
 improved methods of experiments, 1897, 35.
 influence of cultivation on water content, 1897, 46.
 texture on movement of water, 1898, 403.
 investigation of physical properties, 1897, 47.
 kinds requiring potash, 1896, 125.
 lines of investigation suggested, 1897, 436.
 local, study by Division of Agricultural Soils, 1895, 54.
 location and site for pear orchard, 1900, 370.
 methods of removing alkalies, 1898, 302.
 modification of methods of cultivation for improvement, 1897, 128.
 movement and retention of water, article by Lyman J. Briggs, 1898, 399-404.
 new, westward movement in search, 1899, 335.
 note on work of Division for tobacco and for irrigation, 1898, 11.
 notes on flocculation of clay, adsorption, and other phenomena, 1900, 409.
 objects and methods of investigating certain physical properties, article by
 Lyman J. Briggs, 1900, 397-410.
 of Eastern States, comparison with Western soils, 1897, 129.
 supply and use of rainfall, 1897, 432.
 the arid regions, 1894, 155.
 Hawaiian Islands; adaptation to sugar growing, 1898, 564, 566.
 open and porous, early preference, note, 1899, 217.
 relation of fineness of texture to capillary spaces, 1898, 402.
 to crop production, 1894, 129.
 water supply, 1897, 127, 431, 432.
 relative time of washing out salts, 1898, 498.
 salt determination, 1897, 133.
 soluble mineral matter, article by Thomas H. Means, 1898, 495-504.
 some typical, tables showing texture, 1896, 602.
 study by experiment stations, 1899, 534.
 in chemical laboratories, 1899, 743.
 of water content, 1897, 45.
 subsoiling, 1895, 53, 127.
 table of mechanical analyses for Western points, 1897, 440.
 showing relation of soil grains and percentage of salt, 1898, 499.
 temperature and moisture, remarks, 1899, 343.
 texture, remarks, 1899, 344.
 tobacco. (*See Tobacco soils.*)
 truck. (*See Truck soils.*)
 typical, study by experiment, 1898, 29.
 in Division of Chemistry, 1897, 34.
 texture in different localities, notes, 1895, 556.
 variety in Eastern States, notes, 1897, 125, 126.
 water capacity, 1895, 138.
- Soja bean, diagram showing results from seeds of different sizes, 1896, 309.
 experiments with seed of different weights, 1896, 311.
 table of results with light and heavy seed, 1896, 312.
- beans, use in producing oil, 1895, 204.
- Solanella, synonym of *Gelechia solanella*, 1898, 140.
- Solanin, cause of unpleasant flavor of green colored potato, 1900, 346.
 poisoning from potatoes, 1900, 348.
- Solanum carolinense* and *S. nigrum*, harbor for tobacco insects, 1898, 125, 150.
- Soldier bugs, destruction of asparagus beetles, 1896, 346.
- Solidago odorata* (sweet golden-rod), note on use for perfume, 1898, 396.
- Solubility of fertilizers, Liebig's recognition of importance, 1899, 221.
- Soluble matter in soils, 1898, 496.
- Song birds, European, Society for Introduction, note on work, 1899, 288.
 sparrow, ratio of weed seed to total food, 1898, 227.
- Sonoran wheat, adaptation to southern California and Arizona, 1897, 116.
- Sooty mold of orange in 1898, notes, 1898, 652.
 treatment, 1894, 578.

- Sore heels, or grease, relation to cowpox, 1899, 103.
- Sorghum, crop, suitable for alkali soils, 1895, 121.
 green, theory as to cause of fatal effects, 1900, 30.
 increase in sugar percentage by efforts of Division of Chemistry, 1897, 80.
 study by Chemist, 1899, 242.
 usefulness for sirup and cattle feed, 1899, 243.
- Sorghums, value for succulent forage, 1899, 625.
- Sour orange, introduction in Florida, 1897; 320.
 resistance to mal di gomma, and crossing with sweet orange, 1897, 417.
- Soursop, injury by freezes in Florida in 1894-95, 1895, 172.
- South America, introduction of potatoes, 1899, 484.
 Atlantic and Gulf States, table showing average precipitation, 1897, 617.
 permanent anticyclone, note, 1898, 530.
- Carolina, first importation of Angora goats, 1898, 433.
 phosphates, introduction, note, 1899, 338.
 possibility of rose farming, 1898, 382.
 Railroad Company, operation with locomotives, 1899, 646.
 table on cost of fertilizers and profit on cotton, 1897, 599.
 truck soils, 1894, 136.
- Dakota, character of public land; water supply; irrigation, 1898, 344.
 growth of saltbush, 1898, 340.
 note on cooperative work in tree planting, 1897, 157.
 public lands, 1898, 326, 330.
 study of forage plants, 1897, 166.
- dates of killing frosts, 1897, 618.
- expansion of truck farming, 1900, 439, 440.
- grasses best suited to lawn making, 1897, 361.
- grazing and forage problems, 1899, 352.
- illustration of lumbering, 1899, 421.
- investigations of Division of Agrostology, 1897, 172.
- Southeastern States, advantage of plentiful rainfall, 1897, 613.
- Southern cattle, early observations as source of disease, 1899, 125.
 fever. (*See Texas fever.*)
 increased thriftiness in Illinois after dipping, 1898, 463.
 inspection, 1897, 21; 1898, 26; 1899, 49.
 study of Texas fever, 1897, 243.
- clothes moth, remedies, 1894, 573.
- fever. (*See Texas fever.*)
- grown vegetables beginning of, effect on Northern market, 1899, 483.
- pear culture, effect of introduction of Kieffer and Le Conte pears, 1897, 416.
- States, adaptation of cowpeas to needs, 1896, 287.
 to growth of macaroni wheats, 1896, 492.
 betterment of forage crop by work of Division of Botany, 1897, 93.
 damage to wheat by black-stem rust, 1896, 498.
 distribution of tea seed, 1897, 195.
 improvement of apples, 1897, 190.
 investigation of irrigation for rice and sugar, 1900, 66.
 notes on sowing Bermuda grass, 1900, 31.
 relation to agriculture of selection of crops, 1897, 117.
 system of grape-training, 1896, 524.
- tick-infested cattle, development of Texas fever, 1898, 466.
- wheat grass as soil binder, 1894, 435.
- Southwest, investigation of forage condition by Division of Agrostology, 1897, 170.
- Southwestern States, origin of storms, 1897, 75.
- Soy bean, note on variety as garden vegetable, 1900, 140.
 planting, cultivation, time of cutting, feeding value, 1897, 498.
- Spain and Italy, amount of sodium nitrate used for manurial purposes, 1895, 90.
 change of duties for Porto Rican products, 1898, 314.
- pork imported from United States, 1895, 10.
- Spanish dates, manner of propagation, and introduction into United States, 1900, 459.
 fever. (*See Texas fever.*)
 language as obstacle to Weather Bureau work in Porto Rico, 1899, 12.
- Sparrow, English, bounty laws, 1899, 280.
 food; destruction of white ants, 1900, 419, 421.
- European tree, introduction, 1899, 288.
- hawk, food of nestlings, 1900, 430.

- Sparrow hawk, notes, 1894, 223.
- Sparrows and finches, discussion of food and usefulness of varieties, 1898, 222, 223.
failure of attempts to exterminate by bounty, 1896, 66.
- Spartina cynosuroides* and *S. glabra* as soil binders, 1894, 436.
(cord grass), notes, 1895, 318, 329.
glabra, note on use in binding shifting sands, 1897, 175.
junceae and *S. polystachya*, notes, 1894, 436.
(fox grass or red salt grass), notes, 1895, 329, 332.
junciformis, notes, 1895, 329.
polystachya, description, 1895, 329.
stricta var. *glabra* (creek sedge), characteristics and uses, 1895, 328.
- Spawn of toadstools, manner of growth, 1897, 454.
- Spear grass, sea, notes, 1895, 328, 330.
- SPENCER, GUILFORD L., article on "Utilization of residues from beet-sugar manufacture in cattle feeding," 1898, 213-220.
- Speotyto cunicularia floridana* (burrowing owl), food of nestlings, 1900, 431.
- Spermophagus pectoralis* (Mexican bean weevil), notes, 1898, 248.
- Sphagnum moss, effect on agricultural conditions in Alaska, 1897, 554.
- Sphinx moths, larvæ as tobacco insects, 1898, 128.
- Sphyrapicus varius* (sapsucker), food of nestlings, 1900, 427.
- Spices, imports, 1891-1895, 1895, 550.
- Spider, red (pineapple mite), disease of the pineapple, 1895, 282.
webs, loss of *Blastophaga*, 1900, 89, 92.
- Spiders as enemies of *Blastophagas*, fig insects, 1900, 100.
- Spike grass, description and characteristics, 1895, 330.
(long leaf), disease of the pineapple, 1895, 281.
- Spilosoma virginica* (yellow bear), notes, 1898, 257.
- Spinach, New Zealand, introduction into United States, use as a pot herb, 1895, 214.
soil adapted, 1894, 133.
- Spinacia oleracea* (spinach), use as a pot herb, 1895, 214.
- Spines, development under varying conditions, 1896, 96.
- Spinifex hirsutus* as soil binder, 1894, 431.
long-leafed and *S. squarrosus*, notes, 432.
rolling, as soil binder, 1894, 431.
- Pinus pinus*. (See Siskin.)
- Spiny salt sage, description, usefulness, etc., 1898, 546.
- Spirits, distilled, consumption per capita, 1870 to 1896, 1896, 595.
- Spitzli, G. H., note on experiments in feeding beet pulp, 1898, 218.
- Spiza americana*, food of nestlings, 1900, 420.
- Spizella socialis*, food of nestlings, 1900, 419. (See also Chipping sparrow.)
- Splenetic fever of cattle. (See Texas fever.)
- "Split worm," description; injuries to tobacco; remedies, 1898, 137-140.
- Spontaneous generation, errors and their abandonment; retention of doctrine, 1900, 237, 238.
- Spores, anthrax, survival of treatment with absolute alcohol and compressed oxygen, 1899, 119.
- Sporobolus airoides*, note, 1898, 338.
spp. grasses, value on alkali soils, 1900, 595, 596.
- Sportsmen, League of American, work for enforcement of game laws, 1899, 287.
- Spot, fruit and leaf, of quince, treatment, 1894, 578.
- Spray for mite of orange and lemon, 1900, 288.
hot, use against insects in California, 1896, 231.
- Sprayers for fungicides, notes, 1899, 196.
- Spraying, advantages of gasoline motor machine, 1896, 85.
as protection against frost in orchards, 1897, 64.
cheap orchard outfit, 1896, 623.
citrus trees for scale insects, expense as compared with gassing, 1900, 255.
for imported elm leaf-beetle, 1895, 366.
growth of use against insects, 1896, 69.
in high air for protection from frost, apparatus described, 1895, 156.
nursery stock, growth and saving, note, 1899, 199.
of orchards with Paris green, etc., notes, 1899, 147.
outfit for orchard, description, etc., 1894, 576; 1895, 586.
precautions against poisoning, 1896, 87.
relation to use ladybirds against scale insects, 1896, 225.
steam apparatus, daily capacity and cost, 1896, 76.
details of construction, 1896, 78, 80.

- Spraying, steam apparatus, for city shade trees, details of operation, 1896, 78.
 machine compared with hand, 1896, 82.
 united private efforts, recommendation, and obstacles, 1896, 86.
 use against fungous diseases of leaves, 1896, 254.
 of steam apparatus, article by L. O. Howard, 1896, 69.
 conclusions, 1896, 87.
 with Bordeaux mixture for scab in pear tree, 1900, 388.
 copper sulphate, note, 1899, 18.
 work of the Gypsy Moth Commission in Massachusetts, 1895, 367.
- Sprays for citrus trees, discussion, 1900, 260-262.
- Sprengel, note on book on pollination of flowers, 1898, 167.
- Sprout land, careful cutting, 1899, 419.
- Sprouted potatoes, source of poisoning in Austrian army, 1900, 348.
- Spruce, early conservative cutting, 1899, 319, 320.
 in Adirondacks, improvement in cutting, 1899, 22.
 Red, note on injury by fungus, *Polyporus pinicola*, 1900, 209.
 Sitkan, growth in Alaska, 1897, 561.
- Spruces, description and notes on growth (*see also* Bastard spruces), 1897, 648.
- Spurge, European, seed for producing oil, 1895, 193.
- Squanto (Indian), instructions to Plymouth colonists on corn growing, 1899, 209.
- Square-necked grain beetle, notes, 1894, 290.
- Squash, advantage of old seed, 1898, 363.
 borer and bug, remedies, 1894, 574.
 improvement by crossing and selection, 1899, 486.
- Squirrel hawk, notes, 1894, 219.
- Squirrels, ground, cause of heavy losses in grain fields, 1896, 56.
- Stable manure, application in pear orchard, note and caution, 1900, 379, 380.
 note on use for flax, 1897, 474.
 model (French), commission, note, 1899, 99.
- Stables, use of formaldehyde in disinfection, 1896, 261.
- Stabling season for cows, 1894, 313.
- "Staghead," 1896, 239, 240. (*See* "Top dry.")
- Staked Plains region, note on grasses, 1900, 590.
- "Stamping out" of hog cholera, effectiveness of work, 1899, 454.
- Standard European pears, location of orchards in United States, 1900, 370.
- Standardization of tuberculin, methods, 1898, 114.
- Standards of weight of grass seed, 1898, 478.
- Stanford, Senator, notes on Vina vineyard, 1898, 561.
- STANNARD, J. D., and C. T. JOHNSTON, article on "Practical irrigation," 1900, 491-513.
- Starch and sugar, increase in plants by breeding, 1898, 370.
 effect of heat, 1900, 342.
 manufacture, remarks, 1899, 253.
 yield in potatoes, study, 1899, 743.
- Starling, notes; importation prohibited in Australia, 1898, 101, 102, 103.
- Stassfurt, Germany, deposits of potash, 1896, 117.
 salts, study of effect on starch yield in potatoes, 1899, 743.
- State agricultural societies, secretaries, 1898, 610; 1899, 687; 1900, 642.
 board and society (agricultural) libraries, 1899, 502-504.
 boards of agriculture, lists of secretaries, 1898, 609; 1899, 686; 1900, 642.
 experiment stations, cooperative experiments in tree planting, 1897, 156.
 extent and usefulness of work, 1898, 46.
 forestry, review of work in United States; list of States, 1899, 299.
 highways in Massachusetts, 1894, 505.
 horticultural societies, list of officers, 1898, 622; 1899, 705; 1900, 659.
 officials in charge of agriculture, list, 1898, 609; 1899, 686; 1900, 641.
 poultry associations, secretaries, 1898, 616; 1899, 698; 1900, 652.
 universities, general status of agriculture, 1898, 79.
 veterinarians and secretaries of sanitary boards, 1898, 616; 1899, 698; 1900, 653.
 weather services, note on establishment, 1899, 87.
- States having offices for forest work, 1898, 620.
- Stations, new, list for Weather Bureau, 1898, 81.
 weather and meat inspection, and locations, 1896, 15.
- Statistical agents, need of qualified men in every State, 1897, 57.
 office, note on need, 1897, 259.

- Statistics, agricultural and general, books in library, 1897, 222.
 consumption of tea, coffee, wines, and other liquors, 1895, 552; 1896, 595; 1897, 754; 1898, 723.
- Division, collection and publication of information about crops, 1898, 11.
 competitive examinations, 1894, 54.
 influence of work on equilibrium of supply and demand, 1897, 261, 265.
 publications, 1895, 623; 1896, 652; 1897, 634; 1898, 608; 1899, 685; 1900, 695.
 reports, impossibility of anticipating, 1898, 60.
 review of work for farmer, by John Hyde, 1897, 258, 270.
 State and county agents, 1894, 55.
 work, organization and duties, 1894, 54, 524; 1895, 33, 524; 1897, 56, 620; 1898, 59-61, 594; 1899, 11, 53-55, 668; 1900, 13, 72, 634.
- exports of agricultural products, 1894, 540; 1895, 543; 1896, 585; 1897, 743; 1898, 712; 1899, 829; 1900, 847.
 domestic merchandise, 1895, 551.
 raw cotton, 1895, 551.
- imports of agricultural products, 1894, 543; 1895, 548; 1896, 591; 1897, 736; 1898, 705; 1899, 822; 1900, 840.
- of crops, farm animals, imports and exports, transportation rates, 1895, 526-553; 1896, 559-599; 1897, 710-759; 1898, 678-728; 1899, 759-849; 1900, 753-858.
- fruit and vegetable canning in the United States, 1895, 552.
- prices of agricultural products, 1894, 534, 545; 1895, 532; 1896, 573, 578; 1897, 723; 1898, 692; 1899, 793; 1900, 813.
- production in the United States of semitropical fruits and nuts, 1895, 551.
- proof of value; aim in work, 1897, 268, 269.
- sugar, consumption and price, 1895, 552.
- Staves, heads, shingles, etc., damage from ambrosia beetles, 1896, 430.
- Steam and superheated water; use as insecticide, 1896, 230.
 chest, construction and use in dairy, 1896, 438.
 closet, use in large dairies, 1896, 438.
 comparison with gas as insecticide, 1896, 231.
 engine, early discussion of use for transportation, 1899, 645.
 merits as disinfectant, 1896, 255.
 note on use in evaporators for fruit, 1898, 313.
 railroads, introduction and development, 1899, 375.
 risk in use of vacuum pumps in irrigation, 1896, 184.
 spraying apparatuses, daily capacity, 1896, 76.
 machines, objections, 1896, 83.
 tank, necessity and use in creamery, 1896, 437.
 use in sterilization in dairy, 1896, 437.
 of engines in pumping for irrigation, 1896, 186.
- Steamer transportation rates for grain (on Mississippi), 1877-1897, 1897, 755.
- Steamers, fruit shipments in cold storage, 1900, 576.
- Steaming, preparation of corn stover for feeding, 359, 360.
 tobacco, measure against insect enemies, 1898, 147.
- Steddom, Rice P., report as inspector on dipped-cattle train, 1898, 462.
- Steel rails, introduction on railroads and advantages, 1899, 650.
 roads, experiments at Cleveland and Omaha, 1898, 38.
 siding for silo, note, 1899, 619.
 track roads, notes on experimental sections, 1899, 41.
 wagon roads, advantages, 1898, 293.
 article by Martin Dodge, 1898, 291-296.
- tracks, method of laying, 1898, 294.
- trackways, use in road building, 1897, 178.
- STEELE, EDWARD S., article on "Can perfumery farming succeed in the United States," 1898, 377-398.
- Steinpilz, edible, toadstool, description, etc., 1897, 466.
- Stephenson, George, establishment of prevailing gauge on railroads, 1899, 652.
- Sterility, changes of condition and excessive cultivation as causes, 1896, 100.
 result of reduction in size by use of small seed, 1896, 92.
- Sterilization, application in dairy, 1896, 437.
 effect on digestibility, 1894, 341.
 of milk, 1894, 331, 351.
 tuberculin cultures, 1898, 113.
 suggestions for the dairy, 1896, 440.

- Sterna* spp. (terns), food of nestlings, 1900, 434.
 notes on extermination, 1899, 272.
- Stevens, J. H., notes on vegetables in Alaska, 1898, 319.
- Stigmaeus* sp. (red spider) disease of the pineapple, 1895, 282.
- STILES, CH. WARDELL, article on "The country slaughterhouse as a factor in the spread of disease," 1896, 155-166.
- Stinking smuts of wheat, copper sulphate treatment, 1894, 417.
 hot-water treatment, 1894, 415.
 1894, 409; treatment, 1894, 578.
- Stipa, species of grass, distribution and value, 1900, 594, 595.
- Stirton, Thomas, reports on farms in Leicester and Rutland, 1898, 584.
- Stoats, weasels, and ferrets, introduction into New Zealand, 1898, 96.
- Stock breeding, effect of foreign demand, 1899, 631. (*See also* Live stock.)
 sections of greatest improvement, 1899, 630.
 speculation in pedigree, 1899, 634.
 general conditions leading to killing by plants, discussion, 1900, 306.
 grazing, combination with forestry by West Virginia landowner, 1899, 421.
 live, work of breeder in improvement, article by John Clay, jr., 1899, 627-642.
 notes on study of poisonous plants, 1900, 30.
 pens, need of disinfection, 1897, 25.
 poisoning by larkspur, symptoms, remedies, etc., 1900, 315-318.
 raising, change of conditions in Northwest, 1897, 168.
 on English farms, notes, 1898, 585, 586, 587, 588.
 ranges, Northern, some poisonous plants, article by V. K. Chesnut, 1900, 305-324.
 time of special danger from camas, 1900, 322.
 use of millet seed, 1898, 288.
 value of ensilage as food, 1899, 620.
 salt bushes, 1898, 527.
 yards and abattoirs, ante-mortem inspection of animals, 1896, 19.
 inspection, 1894, 78; 1895, 12; 1897, 248.
 use of separate pens for Texas cattle as precaution against fever, 1897, 242.
- Stockmen, opinion in early days as to cause of Texas fever, 1897, 241.
- Stocks, local consideration in grafting, 1896, 477.
 seed, method of seedsmen in growing, 1899, 563.
 selection in propagation of citrus fruits, 1896, 476.
- Stolley vetch, growth and value as forage, 1897, 508.
- Stomach contents of crow blackbirds, 1894, 238.
- Stomachs of blackbirds, list of vegetable substances found, 1894, 242.
- Stone as roadbed for railroad, 1899, 649.
 cells in pears, time of development, 1900, 392.
 Gen. Charles P., introduction of date palms from Egypt, 1900, 459.
 roads, advantages; evils of improper construction, 1898, 322.
- STONE, ROY, article on "Agriculture in Puerto Rico," 1898, 505-514.
 "Best roads for farms and farming districts," 1894, 501-512.
 "Cooperative road construction," 1895, 487-492.
 "Object-lesson roads," 1897, 373-382.
 review of work of Office of Road Inquiry, 1897, 175-180.
 use in making smooth roads in early times, 1899, 644.
- Stool system for propagation of olives, 1896, 375.
- Storage, fruit, application of mechanical refrigeration, 1900, 568
 houses, rapid increase, notes, 1900, 569.
 in iced chambers, developments, 1900, 564.
 of apples, notes on cost, 1900, 571, 572.
- Storer, F. H., early publication of bulletins for Bussey Institution, 1899, 227.
- Storing and harvesting, influence on grass seed, 1898, 477.
- Storm center, relation of wind, 1897, 73.
 forecasts, special, for North Atlantic Ocean, 1900, 14.
 of March 27, 1890, damage; storms, sea islands and tropical, 1894, 123.
 signal stations of Weather Bureau; warnings, 1897, 27, 30.
 warning and forecast service, 1897, 60-65.
 service, benefit to commercial interests in West Indies, 1898, 20.
 warnings, first issues, 1899, 81.
 relation of information collected by use of kites, 1898, 83.
 waters, problem of use for irrigation, 1896, 176.
- Storms, appearance of different types, 1898, 526.
 conditions of production, 1898, 532.

- Storms, cyclonic, cause of heavy rainfall in Texas, 1897, 617.
 dangerous, note on success in forecasting, 1899, 90.
 direction of approach, notes, 1900, 111.
 generalizations of Redfield, 1899, 74.
 inception and movement, 1897, 75.
 latest views on theories of origin, 1899, 91.
 note on observations of Franklin, 1899, 73.
 warnings by Weather Bureau, 1898, 21.
 remarks on description in Monthly Weather Review, 1899, 86.
 source of energy, 1898, 528.
- Storrs Experiment Station, cooperation in dietary investigation, 1898, 440.
- Straw, cause of loss in manure; fertilizer for wheat, 1897, 297, 298.
 coarse, and manure, effect of application to soils, 1899, 742.
 flax, use in paper making, 1897, 479.
- Strawberries, care in selecting plants for new beds, 1896, 93.
 culture, 1895, 291.
 early shipment in refrigerator car, 1900, 575.
 efforts at shipment under refrigeration and early failures, 1900, 444.
 improvement, remarks, 1899, 482.
 shipments in cold storage, and increase of plantings, 1900, 576.
 varieties which succeed generally, 1895, 292.
- Strawberry beetle of Australia, notes on injuries, 1897, 548.
 cuttings, selection experiment, 1898, 375.
 growing, early development at Norfolk, Va., note, 1900, 562.
 mistake as to evolution, 1896, 298.
 weevil, remedies, 1894, 574.
- Streams, note on study of effect of forest growth, 1899, 23.
 use for irrigation on Western plains, 1896, 175.
- Street sweepings, inquiry as to use as fertilizer, 1897, 37.
 note on study of agricultural value, 1898, 29.
 trees, aims and methods of trimming, 1898, 159.
 pruning, 1898, 158.
- Striped cucumber beetle and striped flea beetle, remedies, 1894, 573.
- Strix pratincola* (barn owl) food of nestlings, 1900, 430.
- Struthio australis* (ostrich) note on farms for raising, 1899, 274.
- Stubbs, Dr. W. C., views as to experiment station in Hawaii, 1900, 63.
- Student life in State universities, features, 1898, 80.
- Studies for admission to agricultural colleges, 1900, 674-686.
 in agricultural colleges, 1898, 65, 67, 68, 69, 70, 72, 73, 75, 76, 78, 79.
- Study, courses at Agronomic Institute in Paris, 1900, 117.
- Stumpage values in Southern Appalachians, note, 1900, 368.
- Stumps, method of cutting to prevent decay, 1899, 419.
- Sturnella magna* (meadow lark), distribution, 1895, 420. (*See also* Meadow lark.)
neglecta (western meadow lark), distribution, 1895, 420.
- Subirrigation, greenhouse, experiments at Ohio, West Virginia, and Michigan experiment stations, 1895, 245.
 of the garden, remarks, 1895, 239.
- Subsidized refrigerated steamers, shipments of fruit from Canada, 1900, 580.
- Subsoil, distribution of potash, 1896, 110.
 influence on growth of grass and beauty of lawn, 1897, 356.
 relation to availability of rainfall, 1897, 129.
- Subsoiling as a fad, remarks, 1899, 343.
 in arid region, 1894, 163.
 principles discussed, 1895, 127.
 remarks on advantages, 1895, 53.
- Subsoils of tobacco land, mechanical analyses, 1894, 146, 148, 152.
 truck lands, mechanical analyses, 1894, 136-139.
- Subtropical fruits, study in Department of diseases, 1897, 110.
- Suburban traffic, kind of road and of road material, 1900, 354.
- "Suck-fly," injuries to tobacco; remedies, 1898, 134, 135, 136.
- Sucking bugs, notes on species injurious to tobacco, 1898, 136.
- Sugar and meat, relation of values in Hawaiian Islands, 1898, 576.
 molasses, exports, 1895, 545. (*See also* Exports.)
 imports, 1898, 710, 716. (*See also* Imports.)
 starch, increase in plants by breeding, 1898, 370.
 as fertilizing material, opinion of Sir Humphry Davy, 1899, 210.
 average price and consumption, 1895, 552; 1896, 595; 1897, 754; 1898, 622.

- Sugar beet and food investigations, note, 1898, 30.
 industry in United States for 1900, 1900, 750.
 investigation by Division of Chemistry, 1897, 37; 1900, 24, 35.
 possible increase of sugar content by hybridization, 1897, 418.
 results of chemical study, new factories, 1899, 744.
 use of residues from manufacture, 1898, 213.
 beets, danger from chlorine in fertilizers, 1896, 129.
 experiments, 1897, 10.
 growth without rain or irrigation on certain California soils, 1897, 432.
 melons, and potatoes, notes on diseases, 1900, 730.
 note on early study, 1899, 238.
 potash, withdrawal from soil in cultivation, 1896, 114, 115.
 remarks by Secretary, 1899, 57.
 cane and beet, work of experiment stations, 1899, 544.
 danger from frost, 1897, 62.
 potash, withdrawal from soil in cultivation, 1896, 114.
 consumption and price, 1878-1894, 1895, 552.
 content of beets, relation to selection of beet seed, 1897, 80.
 Smyrna fig, note, 1900, 95.
 crop of certain countries, 1895-1900, 1899, 781.
 Davy's method of purifying; notes, 1899, 214.
 duty in Spain on Porto Rican product, 1898, 514.
 effect of beet sugar on market, 1899, 243.
 experts, training at New Orleans, 1899, 187.
 exports, 1895, 545, 547. (*See also* Exports.)
 from sorghum, study by chemist, 1899, 242.
 imports, 1895, 549; 1895, 594.
 in Porto Rico, notes, 1898, 511.
 increase in fruits and vegetables by hybridization, 1897, 417.
 industry in Cuba, control, 1898, 671.
 land, irrigation in Louisiana, 1899, 39.
 manufacture, remarks, 1899, 254.
 milk, grades and prices of product from whey, 1897, 525-527.
 percentage in different varieties of cheese, 1895, 456.
 outlook for home supply for home demand, 1897, 10.
 planting, benefit of mongoose by destruction of rats, 1898, 94, 95.
 processes of extracting from beets, 1898, 214.
 production in Hawaiian Islands, 1898, 566.
 quantity and value of imports from principal countries of supply, 1899, 839, 840.
 in ripe dry date, 1900, 479.
 remarks on imports from island possessions, 1899, 60.
 statistics, 1895, 552; 1896, 595; 1897, 753; 1898, 721; 1899, 781, 839; 1900, 818.
 quantity imported into United States by countries, 1898, 721.
 values and quantities of imports by countries, 1893-1897, 1897, 753.
 Sugar-beet seed, note on distribution, 1898, 36; 1899, 56.
 work of chemist, 1899, 14.
 Sugar-cane borer, remedies, 1894, 574.
 Sugars, assistance of chemist in fixing rate of duty, 1898, 30.
 note on, examination for collection of duty, 1900, 25.
 Sulphide, potassium, formula for use as fungicide, 1897, 676.
 Sulphites, use in food preservatives, 1900, 556.
 Sulphur and dynamo oil, conclusions as to use against cattle ticks, 1898, 471.
 success of dipping cattle for ticks, 1898, 460-464.
 use against orange and lemon mite, 1900, 288.
 as insecticide, 1897, 640.
 usefulness against bacteria on pear, 1897, 185.
 with oil for destruction of Texas fever ticks, 1898, 459.
 Sulphuric acid, note on use in fertilization, 1899, 221.
 Sumatra leaf, Florida-grown, at Paris Exposition, remarks, 1900, 162.
 notes on, tobacco, 1898, 42, 43, 44.
 tobacco, Florida-grown, notes, 1899, 437, 438.
 note on production in Florida and Connecticut, 1900, 166.
 success in production in Connecticut, remarks of Secretary, 1900, 48.
 Summer as time of tornadoes, 1898, 531.
 pruning, modification of results by weather, 1898, 153.
 Summerville, S. C., experiment in tea culture, 1897, 196.
 Sun, relation to formation of storms and cyclones, 1898, 529.

- Sun scald, danger to nut trees, 1896, 339.
 nature, causes, and preventives, 1896, 243.
 spots, relation to tornadoes, 1898, 533.
- Sunflower as food of goldfinch, 1898, 229.
 note on value as introduced crop, 1900, 133.
 seed, effect of different temperatures on germination, 1895, 178.
 oil and its uses, 1895, 194.
 valuable results of study in Division of Chemistry, 1897, 82.
- Sunflowers, crop suitable for alkali soils, 1895, 120.
 cultivation, soil, and uses, 1895, 194.
- Superintendent of Documents, sale of Department publications, 1897, 207; 1899, 43.
- Superphosphate, character, 1894, 183.
 use as preservative of manure, 1897, 688.
- Supply Division, chief, functions, 1898, 593; 1899, 667; 1900, 633.
- Surface tension of water, 1898, 399.
- Surfacing of roads, discussion, 1898, 320.
- Survey, Biological. (*See* Biological Survey.)
- Surveyor, work and instruments, in laying line of road, 1900, 194.
- Surveyors' measure, table, 1895, 547.
- Sutherland, J. B., first patent for refrigerator car, note, 1900, 574.
- Swainson's hawk, notes, 1894, 222.
- Swallow-tailed hawk and kite, notes, 1894, 218.
- Swallows, food of nestlings, 1900, 417.
- Swamp lands, availability by drainage, 1896, 326.
 special roots of cypress and mangrove, 1896, 94.
 millet as soil binder, 1894, 435.
- Sweden, exports of butter to United Kingdom, 1893-1895, 1895, 30.
- Sweet bay, note on availability for perfume, 1898, 396.
 pea, change of form by selection in breeding, 1898, 371.
 development of varieties, 1899, 569.
 improvement, 1899, 488.
 potato, note on treatment of disease, 1899, 18.
 potatoes, soil adapted, 1894, 133.
 sop, injury by freezes in Florida in 1894-95, 1895, 172.
 wine grapes, varieties, 1898, 559.
- Swine, average price, number, and value, 1897, 264, 733, 735. (*See also* Hogs.)
 value, January 1, 1880 to 1899 (*see also* Hogs), 1898, 702.
 breeders' associations, secretaries, 1898, 615; 1899, 696; 1900, 650.
 number and average value, and total value, January 1, 1899, by States, 1898, 704.
 value, 1895, 535; 1896, 576; 1897, 733; 1898, 702; 1899, 818.
 imported from Canada, 1895, 13.
 on farms, price, and total value, January, 1897, by States, 1896, 576.
 price, and value, January 1, 1896, by States, 1895, 535.
- plague and hog cholera, remarks of Secretary on serum, 1900, 18.
 bacteria, inefficiency of separators in removing, 1895, 440.
 (*See* Hog cholera.)
- SWINGLE, WALTER T. and HERBERT J. WEBBER, article on "Hybrids and their utilization in plant breeding," 1897, 383-420.
 article on "The date palm and its culture," 1900, 453-490.
 "The grain smuts, their causes and prevention," 1894, 409-420.
 work in introduction of caprifigs, 1900, 83, 84, 85.
- Swiss chard, culture and use as a pot herb, 1895, 206.
- Switch grass as soil binder, 1894, 430.
 note, 1895, 327.
 on use in sand binding, 1898, 415.
 or false redtop, value as a forage plant, 1895, 314.
- Switzerland, exhibits of butter at Paris Exposition, 1900, and awards, 1900, 611, 618.
- Sycamore, range, characteristics, uses, and suggestions for growing, 1897, 668.
 tree suitable for alkali soils, 1895, 121.
- Sylviculture, publications relating to farmers, 1897, 148.
- Sylvine, composition and supply, 1896, 122.
- Sylvinite, composition and supply, 1896, 122.
- Symptomatic anthrax and anthrax fever, note on experiments showing distinction, 1899, 122.
- Syrnium nebulosum* (barred owl), food of nestlings, 1900, 430.
- Syrphus flies, scale insect enemies, 1894, 253.
- Systema tæniata* and *S. blanda* (flea-beetles), notes, 1898, 254.

T.

- TAFT, L. R., article on "Irrigation for the garden and greenhouse," 1895, 233-246.
- Tags, use in inspection of animals and meats by Bureau of Animal Industry, 1899, 460.
- Tallow and lard, use in making perfumery, 1898, 380.
weed, value as early forage in Texas, 1897, 172.
- Tamarack, range, characteristics, use, and suggestions for growing, 1897, 653.
section for profitable planting, 1900, 152.
use for electric line poles, 1900, 150.
- Tamarinds, statistics of imports, 1897, 319.
- Tan bark, waste of trees after removal, 1897, 154.
- Tanagers, food of nestlings, 1900, 418.
- Tangerine and other oranges, stocks for budding, 1896, 477.
orange, cross with common orange for new variety, 1898, 266.
- Tanks, use in irrigation, 1896, 187.
- Tannin, use as antidote in stock poisoning by water hemlock, 1900, 314.
- Tanning, relation of chemistry, 1899, 256.
- Tapeworms, dissemination by offal, 1896, 160.
- Tar, coal, use in pruning, 1895, 268.
- Taraxacum taraxacum* (dandelion), extensive use as a pot herb, 1895, 208.
- Tariff on chickory, indorsement as result of investigation, 1898, 55.
- Tarring of seed as protection against birds, 1897, 352.
- Tasmania, condemnation of starling, 1898, 103.
- Tax and license of dogs for prevention of rabies, 1900, 242.
- Taxes on forest land, suggestions, 1898, 184, 185.
- Taxodium distichum* (cypress), change in habit of growth, 1896, 94.
- TAYLOR, WILLIAM A., article on "Small fruit culture for market," 1895, 283-294.
"The fruit industry and substitution of domestic for foreign-grown fruits," 1897, 305-344.
"The influence of refrigeration on the fruit industry," 1900, 561-580.
- Tea, consumption in the United States, 1895, 552; 1896, 595; 1897, 754; 1898, 723.
culture, experiment of Dr. Charles U. Shepard in South Carolina, 1897, 195, 196.
opinion of Secretary, 1899, 58.
growing, 1899, 39, 56.
imports, 1895, 549. (*See also Imports.*)
plants, supply of Department for distribution, 1899, 58.
production in United States, remarks by the Secretary, 1899, 57; 1900, 13, 44.
tasters, necessity, note, 1899, 58.
- Teacher, observations by Secretary on preparation for teaching nature studies, 1898, 17.
- Teachers, instruction in nature teaching, 1899, 178.
- Teaching of agriculture, 1899, 67, 224, 226.
- Technical and scientific publications of Department, distribution, 1897, 207.
education in agriculture, development at land-grant colleges, 1899, 169.
- Teeth, determination of age of domestic animals, 1898, 667.
- Telegraph, effect of invention on weather forecasting, 1899, 76.
lines, demand for poles, 1900, 150.
service of Weather Bureau, 1894, 32; 1898, 22; 1899, 84.
- Telegraphic messages in weather service, precedence and cost, 1899, 84, 85.
- Telegraphy, wireless, investigations of Weather Bureau, 1900, 14.
- Telford and Macadam, introduction of broken-stone roads, 1899, 372.
foundation for road, 1898, 322, 323.
- Temperature and moisture for tea culture, 1897, 195.
of air, 1900, 109.
soils, 1897, 122; 1899, 343.
precipitation, diagrams, 1897, 690-699; 1898, 640-651.
rainfall, relation to flax growing, 1897, 477.
charts, kinds published by Weather Bureau, 1897, 71.
degrees necessary for sterilization, 1896, 441.
departures from normal, 1897, 700-709; 1899, 732-737, 1900, 715-719.
diagram showing relation to rate of nitrification, 1895, 100.
effect of drainage of cold air in Arizona, 1900, 487.
on plant growth and adaptation, 1896, 96.
extremes in arid regions and relation to tree growing, 1897, 156.
safe for perishable goods, 1900, 741.
for 1899 in several regions, 1899, 731.

- Temperature, high, extermination of scale insects, 1900, 249.
 limit in use of steam as insecticide, 1896, 231.
 necessary for fruiting of date palm, remarks, 1900, 464.
 of domestic animals, method of determining, 1900, 740.
 soils, discussion of methods of measurement, 1900, 404-406.
 study of vertical distribution in storms, 1898, 83.
- Temperatures and totals of heat required for successful date growing, 1900, 466.
 at various points for 1895 compared with highest and lowest ever recorded, 1895, 554.
 effect on germination of seeds, 1895, 178.
 high, limit of practicable forecast (*see* Hot waves), 1900, 336.
 study at Alaska stations, 1899, 13.
- Tenebroides mauritanicus* (cadelle), notes, 1894, 290.
- Tennessee, eastern, notes on mountain region, 1900, 357.
 extension of tobacco industry, 1899, 430.
 notes on tobacco soils, 1897, 127.
 phosphates, general remarks, 1894, 179.
 problem in growing of grasses and forage plants, 1898, 40.
 tobaccos, note on position in trade and Paris Exposition exhibit, 1900, 164.
- Tenth Census, chemical work, notes, 1899, 340, 341, 344.
- Tents, styles used in fumigation against insects, 1896, 229.
- Teosinte, note on introduction and usefulness, 1897, 163.
- Terns and gulls, food of nestlings, 1900, 434.
 notes on destruction, 1899, 270.
 remarks on extermination along Atlantic coast, 1899, 272, 273.
- Testing commercial varieties of vegetables, article by W. W. Tracy, jr., 1900, 543-550.
 flower seeds, table on methods, 1897, 450.
 garden on Potomac flats, note, 1899, 16.
 of seed, discussion, 1899, 570-574.
 varieties of vegetables, details of methods, 1900, 548.
- Tests of hybrid fruits at subtropical garden, notes, 1899, 19.
 vegetables by seedsmen, character, 1900, 545.
- Tetanus, or lockjaw, note on serum for prevention, 1900, 21.
- Tetragonia expansa* (New Zealand spinach), use as a pot herb, 1895, 214.
- Tetranychus sexmaculatus* (six-footed mite), discussion, 1900, 289.
- Texas and Florida, note on production of Cuban tobacco, 1900, 166.
 blue-grass seed, notes, 1898, 485.
 cattle, connection with cattle disease in Mississippi Valley, 1899, 125.
 central, varieties of wheat, oats, and corn for cultivation, 1897, 116.
 collection of birds' eggs, 1899, 271.
 cyclonic storms from Gulf as cause of heavy rainfall, 1897, 617.
 date culture, 1900, 483.
 establishment of stations for study of forage resources, 1898, 40.
 Experiment Station, use of oil against Texas fever ticks, 1898, 455.
 fever, conclusion as to cause of loss of cattle from dipping, 1898, 467.
 danger of importation from Mexico; quarantine, 1897, 242, 251.
 development in cattle after dipping, 1898, 466.
 dipping, remarks, 1898, 28, 471; 1900, 21.
 discussion of work of Bureau of Animal Industry, 1897, 240.
 dissemination, 1899, 129, 130.
 district, 1899, 128, 449.
 inspection, remarks by the Secretary, 1895, 12, 13; 1897, 23; 1899, 50.
 notes on ticks, 1897, 24; 1898, 453, 454.
 prevention by dipping of Southern cattle, 1898, 463, 464.
 principal features, 1899, 133.
 regulations issued by Secretary Wilson for control, 1899, 449-452.
 resolution of live stock sanitary boards at Omaha, 1898, 470.
 savings by regulations, 1897, 258; 1899, 133, 452.
 splenic fever, or Southern fever, of cattle, discussion, 1899, 124-134.
 symptoms and range of temperature, 1899, 127.
 ticks, causes of failure of dipping, 1898, 455, 456, 457, 458.
 effect of thin oil and sulphur, 1898, 460.
 work of Bureau of Animal Industry, 1899, 448-452.
 experiment stations, 1899, 546.
 grazing area, divisions and characteristic plants, 1900, 588-593.
 growth of cassie for perfumery, 1898, 394.
 note on extent of raising Angora goats, 1898, 425.

- Texas, note on improvement of pastures, 1900, 37.
 introduction of Kiushu rice, 1900, 135.
 notes on seed for flood sufferers, 1900, 74.
 number of cattle inspected in noninfected area, 1897, 21.
 pea, growth and value as forage, 1897, 508.
 value as forage of clovers, vetches, and grasses, 1897, 171, 172.
 weather service for sugar industry, 1897, 30.
- Texture of soil, discussion, 1899, 344; 1900, 398.
 relation to availability of rainfall, 1897, 125, 129.
- Thatcher, James, early work in plant breeding, 1899, 470.
- Thermometers, kinds for determining soil temperature, 1900, 405.
- Thin oil, increased success in dipping cattle for ticks, 1898, 460.
- Thinning fruit of pear tree, remarks, 1900, 387.
- Thistle, bull, eating by goldfinch, 1898, 229.
- Thomas, Cyrus, note on work for economic entomology, 1899, 141.
 F. A., inauguration of successful refrigerator fruit-car service, 1900, 575.
- THOMPSON, GEORGE F., article on "Administrative work of the Federal Government in relation to the animal industry," 1899, 441-464.
 note on observation on need of plants for carbonic acid, 1899, 219.
- Thornton, Dr., Commissioner of Patents, suggestion of agricultural fairs, 1899, 160.
- Thrasher, brown, 1895, 405, 411, 418.
 food of nestlings, 1900, 415.
- Thrips, grape, remedy suggested by William Saunders, 1897, 186.
 tabaci, injuries to tobacco, 1898, 142.
- Thrush, black, injuries in New Zealand, 1898, 106.
- Thurber, George, work on agrostology, note, 1899, 363.
- Thyme, notes on use for aromatic oils, 1898, 390.
 Thymus vulgaris and *T. serpyllum* (thyme), use for aromatic oils, 1898, 390.
- Tibbey, A. S., observation on stock raising in Alaska, 1898, 522.
- Tick, destruction for prevention of Texas fever, 1897, 24.
 fever, Dr. J. Sidney Hunt, on preventive inoculation, 1898, 468.
 southern, cattle, discovery of relation to cause of Texas fever, notes, 1897, 243, 244.
 problem of destruction, 1900, 21.
 theory of Texas fever, early discredit by Bureau of Animal Industry, 1899, 130.
- Ticks, early suggestions as to connection with Texas fever, 1899, 129.
 experiments in Texas fever, 1899, 131.
 in Texas fever, dipping as a means for destruction, 1898, 28, 455, 456, 457, 460.
 notes on relation to fever in cattle, 1898, 453.
 Porto Rican, freedom from Texas fever contagion, 1899, 50.
 problem of destruction as preventive of Texas fever, 1899, 134.
 summary of 1898 experience in dipping cattle, 1898, 471.
 Texas fever, resistance to dipping solutions, 1898, 455, 458.
- Ticky cattle, case of development of Texas fever, 1898, 466.
- Tide lands, grass for holding, 1897, 175.
 water and salt marshes, areas, 1895, 325.
- Ties, logs, etc., market at Oakland, N. J., 1898, 306.
- Timber and stone lands, public, laws, 1898, 351.
 considerations in farmers' marketing, 1896, 419.
 control of young growth of trees, 1896, 323.
 culture laws, 1899, 294, 427.
 dead, rôle of fungi, 1900, 208.
 diminution of supply in Mississippi Valley, 1900, 147.
 diseases, note on study, 1899, 17.
 estimated contents and annual growth at Oakland, N. J., 1898, 304.
 injury by ambrosia beetles, 1896, 422.
 investigation, work of Division of Forestry, 1895, 38.
 lumber, wood, notes on quality, measurement, etc., 1896, 628.
 method of harvesting by farmer, 1896, 420.
 making inventory by count, 1896, 416.
 methods of lumbering in Southern Appalachians, remarks, 1900, 362.
 note on protection and saving from fungous attacks, 1900, 210.
 notes on seasoning, measurement, stiffness, and strength, 1895, 591.
 on public lands, notes, 1898, 332, 335, 337, 339, 341, 346, 347, 348.
 physics and forest technology, remarks, 1897, 153.
 investigations, 1898, 45.
 plantations already established, remarks, 1900, 153.

- Timber planting, general results of cooperative plan of Division of Forestry, 1900, 155.
 profitable marketing of small tract, 1896, 416.
 pruning of trees, 1898, 160.
 purposes of growing, 1900, 148-151.
 recommendation of methods of harvesting, rules, 1898, 307, 308.
 rule for reckoning volume in the tree, 1896, 416.
 sale from public lands in Alaska by Secretary of the Interior, 1898, 354.
 structural, relation of fungi, 1900, 210.
 suggestions for utilizing small tracts, 1896, 415.
 supply, relation to tree planting for shelter and firewood, 1897, 156.
 trees, note on importance of protection and encouragement, 1900, 368.
- Timothy, after treatment of meadows, cutting, etc., 1896, 150.
 hay, table of air-dry material for East and West, 1896, 153.
 in prairie region, article by Thomas A. Williams, 1896, 147.
 methods of seeding, etc., 1896, 148.
 Nebraska, example of profitability, 1896, 154.
 notes on duration, 1896, 152, 154.
 number seeds per pound, amount to sow; etc., 1894, 570.
 seed, effect of different temperatures on germination, 1895, 178.
 notes; description, 1898, 485.
 time and manner of cutting hay, 1896, 153.
 wholesale prices, 1900, 823.
 use for pasture, 1896, 150.
- Tinea biseliella* and *T. granella*, remedies and notes, 1894, 286.
- Tinware, quality for dairy use, 1896, 432.
- Tires, wide, for prevention of ruts, 1898, 324.
- TISSERAND, E., article on "An ideal department of agriculture and industries," 1896, 543-554.
- Titnice, relations to fruit-growing, discussion, 1900, 295.
- Titmouse, great, or kohlmeise, distribution and injuries, 1898, 104.
- Toadstool, relationship to mushrooms, notes, 1897, 453, 454.
- Toadstools, discussion of edible kinds other than mushrooms, notes, 1897, 462, 467.
 including mushrooms, edible and poisonous, summary of rules, 1897, 469.
- Tobacco acreage, production, and value in the United States, 1895, 532; 1896, 573; 1897, 712; 1898, 680; 1899, 770; 1900, 820.
 adaptation of soils, 1894, 144.
 awards at Paris Exposition, 1900, 75, 162, 165.
 bug or "suck fly," new, notes on distribution and injuries; remedies, 1898, 134-136.
 cause of fermentation, remarks of Secretary, 1899, 27.
 commercial grouping, 1894, 143.
 cutting, 1899, 1899, 729.
 danger from potash as fertilizer, 1896, 129.
 date of first crops, 1899, 310.
 discussion of types in United States exhibit at Paris Exposition, 1900, 160.
 distribution of types, 1894, 145.
 districts, soil maps, 1898, 43.
 dried, notes on injurious insects, 1898, 148.
 exchange exhibits at Paris Exposition, failure to receive medals, reason, 1900, 161.
 exhibit at Paris Exposition, remarks of Secretary, 1900, 49.
 exports, 1894, 18, 542; 1895, 545; 1896, 587; 1897, 748; 1898, 717; 1899, 834; 1900, 852.
 failure of a variety to hybridize with other varieties of species, 1897, 389.
 farm prices, 1895, 532.
 fields, small, irrigation suggested, 1894, 155.
 "frog eye" and "smallpox," as injuries by flea beetle, 1898, 124.
 growing in Connecticut Valley, development as result of study of soil, 1900, 398.
 previous to present century, 1899, 429.
 horn worm, destructiveness; natural enemies; remedies, 1898, 128-132.
 importance of poisoning stubs and suckers after cutting, 1898, 128.
 imports, 1894, 544; 1895, 550; 1896, 593; 1897, 742; 1898, 711; 1899, 828; 1900, 845.
 improvement in quality and flavor by cross breeding, 1897, 419.
 industry, growth, article by Milton Whitney and Marcus L. Floyd, 1899, 429-440.

- Tobacco, influence of fertilizers, 1894, 145.
 injuries from bud worms, 1898, 132-134.
 insects, foreign, note on probability of introduction, 1898, 149.
 introduction in various States, 1899, 431.
 investigations, 1897, 127, 134; 1898, 11, 42; 1899, 27; 1900, 35, 48.
 land, mechanical analyses of subsoils, 1894, 146, 148, 152.
 large content of potash, 1896, 135.
 leaf exported from the United States, statistics, 1899, 439.
 prices on farms, 1886-1895, 1895, 532.
 world's exhibit at Paris Exposition, 1900, article by Marcus L. Floyd, 1900, 157-166.
 leaf-miner, or "split-worm," description; injuries; remedies, 1898, 137-140.
 lemon-yellow, origin and growth of trade, 1899, 430.
 manufactured snuff, cigars, and cigarettes, statistics, 1899, 438.
 method of testing seed, 1897, 449.
 names of principal insect enemies, 1898, 122.
 need of destroying worms after cutting, 1898, 131.
 note on treatises in library, 1897, 221.
 notes on relation of weather to planting, cultivation, and cutting, 1900, 702-712.
 plant, principal insects affecting, article by L. O. Howard, 1898, 121-150.
 planting in 1899, 1899, 724.
 potash, withdrawal from soil in cultivation, 1896, 114, 115.
 production, 1899, 770; 1900, 820.
 protection from frost by potash, 1896, 133.
 remedies against flea-beetle and other insects, 1898, 124-128.
 results obtained by Darwin by cross fertilization, 1897, 413.
 seed, effect of different temperatures on germination, 1895, 178.
 use in producing oil, 1895, 204.
 soils, amount of water, 1894, 150, 154.
 of Connecticut and Pennsylvania, 1894, 143.
 Valley, 1894, 146.
 Pennsylvania, 1894, 151.
 stems and stalks as fertilizers, 1896, 123.
 thrips, description and injuries, 1898, 142.
 use against grape thrips, 1897, 187.
 of polyhalite, schonite, and potassium magnesium carbonate, 1896, 121.
 value of frost and storm warnings, 1897, 62.
 Tobacco-and-sulphur dip for sheep scab, composition, 1899, 453.
 Toll on railroads, rates, 1899, 648.
 system of maintaining roads, results, 1899, 372.
 Tomato, development of varieties, 1899, 568.
 earliness secured by planting immature seed, 1896, 306.
 experiment in causing set of fruit, 1896, 101.
 improvements by breeding; new varieties, 1899, 483.
 note on improvements by Livingston, 1898, 356.
 origin and improvement, 1899, 466.
 plants, damage of plant lice, 1898, 144.
 differences from various influences, 1900, 547.
 Tomatoes, note on disease in 1898, 1898, 652.
 shipment to England from Florida, note, 1900, 579.
 soil adapted, 1894, 133.
 "Tomato-fruit worm," note, 1898, 133.
 Tongue, or whip, grafting, practice with citrus fruit trees, 1896, 486.
 worm, cause of disease in man, 1896, 161.
 Top pruning, general remarks, 1895, 261.
 Top-dressing, use of potash salts, 1896, 131.
 "Top-dry" of trees, nature and cause; preventives, 1896, 239, 240.
 Tornadoes, cyclones, and hurricanes, article by F. H. Bigelow, 1898, 525-534.
 early study by Redfield, Espy, and others, 1899, 74.
 features, 1898, 531.
 Toulouse, France, epidemic among horses, 1899, 106.
 Toumey, James W., study of date palm, note, 1900, 489.
 Tow mills, prices of flax straw, 1897, 472.
 Towhees, food of nestlings, 1900, 418.
 Town lots on public lands, laws for sale, 1898, 353.
 Townsend, C. H. T., observations on tobacco bug, 1898, 137.

- Toxic properties of food preservatives, note, 1900, 553. (*See also* Poison.)
- Toys, requirements of wood for manufacture, 1896, 413.
- Tracks, steel, method of laying, 1898, 294.
- Tracy, publication of article on storm forces, 1899, 75.
 remark on change of form of sweet pea, 1898, 370.
- TRACY, W. W., JR., article on "Testing commercial varieties of vegetables," 1900, 543-550.
 statement as to adherence to type in plant breeding, 1898, 364.
- Trade, Danish export, secret of success, 1899, 47.
 foreign, inquiries, remarks by Secretary, 1899, 45.
 journal in flower trade, 1899, 589.
 with Cuba, table, 1898, 672.
- Traffic, French method of measuring, and relation to road building, 1900, 353.
 records, forms for keeping, supply by Department of Agriculture, 1900, 356.
- Train oil, use as insecticide, 1897, 639; 1898, 661.
- Training and pruning of grapes, article by E. G. Lodeman, 1896, 499-542.
 of grapevines, underlying principles and comparison of methods, 1898, 165.
- Tram, note on origin of word, 1899, 644.
- Trametes pini*, fungus destructive of trees, description, injury, etc., 1900, 206.
- Tramways, forms and uses, 1899, 644.
- Transition life zone, description, 1894, 210.
- Trans-Mississippi Exposition, test of steel-track wagon road, 1898, 292.
- Transplanting, need of pruning of trees, 1898, 155.
 of beach grass, 1898, 410.
- Transportation as an influence in depressing prices of farm products, 1897, 595.
 development in the United States, article by Angus Sinclair, 1899, 643-663.
 distant, in United States, discussion, 1899, 658.
 early pressure of production, 1899, 643.
 effect on cattle after dipping for ticks, 1898, 462, 463, 464.
 extremes of temperature safe for perishable goods, 1900, 741.
 facilities and irrigation, need in Porto Rico, 1898, 510.
 for public lands, 1898, 332, 334, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345.
 improvements, influence on commercial fruit growing, 1900, 561.
 of butter, improvements, 1897, 13.
 cattle, regulations, 1897, 242, 246; 1899, 449.
 fruits, refrigeration in transit, 1900, 573.
 truck products, discussion, 1900, 441.
 problem, relation of country roads, 1899, 376.
 rapid, effect upon trucking business, 1900, 437.
 rates, 1897, 755-759; 1898, 723-728; 1899, 841-849; 1900, 836-839.
 relation to development of orange industry, 1897, 321.
 ventilator, drawbacks for delicate products, 1900, 443.
- Trap rock, hard and tough, unsuitability for roads for light traffic, 1900, 352.
 limitations as road material and reason for undeserved favor, 1900, 354.
- Traps, lure, for grain insects, 1894, 292.
- Travel and transportation difficulties, 1899, 376.
- Traveling libraries, agricultural books, 1899, 509.
 failure to supply farmer's need, 1899, 491.
- Treadwell, D., investigation of robin, 1899, 261.
- Tree growth, notes, 1894, 467, 469, 472.
 note on effect of fire scars, 1898, 189.
 planters, practical cooperation of Division of Forestry, 1900, 52.
 planting, advantages to the farm, 1896, 324.
 danger to young trees from depth, 1896, 242.
 distance of setting, 1895, 592; 1896, 332, 335, 336, 630.
 economic discussion by Secretary, 1899, 23.
 work of Division of Forestry, 1899, 303.
 experiment with conifers on Nebraska sand hills, 1897, 157.
 handling of seedlings in shipment, 1896, 330.
 improvement of thin soils, 1896, 327.
 in the Western plains, article by Charles A. Keffer, 1895, 341-360.
 treeless regions, notes, 1895, 346-360; 1897, 156; 1898, 44, 188; 1899, 304.
 waste places on the farm, 1896, 323, 330, 338.
 injuries by drying out, 1896, 243.

- Tree planting, management of farm nursery, 1896, 329.
 method for poor soil, renewal of food supply, 1896, 240.
 methods for old hillside fields, 1896, 335.
 notes on mixture of varieties, 1896, 331, 332.
 varieties and methods, 1896, 330.
 preparation of soil, 1894, 484.
 proportion of thick-foliage varieties, 1896, 332.
 relation of climatic conditions to spacing, 1896, 336.
 scheme for the sand hills, 1895, 356.
 selections for rapid growth and special uses, 1896, 339, 340.
 species of trees and sections of country, 1900, 151.
 tested in the Western States, 1896, 333.
 speed of setting forest trees, 1896, 336.
 sprouting of seeds for the nursery, 1896, 328.
 thinning of trees and product per acre, 1896, 337.
 time of setting from nursery, 1896, 329.
 utilization of swamp lands and barren ridges, 1896, 326.
 progress of development, 1894, 469.
 shade, insect problem in the Eastern United States, article by L. O. Howard, 1895, 361-384.
- Treeless regions, 1898, 182; 1899, 23; 1900, 588-593.
- Trees, age of infection with fungous diseases, 1900, 203.
 and fruits, early suggestions as to pruning, 1897, 181.
 other plants, pruning, article by William Saunders, 1898, 151-166.
 vegetables, some diseases and remedies, 1898, 263.
 annual growth at Oakland, N. J., 1898, 304, 305.
 as indication of quality of soil, 1899, 341.
 broad-leaved, description, classes, etc., 1897, 655-669.
 classes of diseases, 1896, 237.
 combinations of causes producing death, 1896, 238.
 commercial, studies by Division of Forestry, 1899, 23, 303.
 development in and out of forest, 1894, 473.
 diseases from fungi, 1896, 247.
 of trunk and branches, 1896, 252.
 effect in increasing humidity of air, notes, 1897, 146, 149.
 food materials and conditions of growth, 1894, 461.
 for planting on the Western plains, 1895, 344, 345, 347, 351, 353; 1898, 297.
 forest, fungous diseases, article by Hermann von Schrenk, 1900, 199-210.
 note on study of diseases, 1900, 35.
 time of remaining in nursery for various species, 1896, 328.
 treatment in case of fungous disease, 1900, 208.
 form of development, 1894, 473, 475.
 fruit, shade and other diseases, 1899, 750. (*See also* Fruit trees.)
 injuries by gases in air, 1896, 247.
 from ambrosia beetles, 1896, 429.
 kind to plant, 1894, 481.
 kinds specially liable to injury by fires in Southern Appalachians, 1900, 365.
 light conditions, 1894, 464.
 manner of infection with destructive fungi, 1900, 200.
 method of reproduction, 1894, 479.
 methods of planting, 1894, 484.
 most important in forestry, list of one hundred, 1897, 644-669.
 native, proposed study of experiments in plains, 1898, 188.
 need of training from nursery, 1898, 158.
 note on marking, cutting, and working up, 1898, 308.
 study of diseases, 1896, 237, 238, 252; 1900, 35.
 time of cutting, 1898, 182.
 number to be planted per acre, 1894, 485, 496.
 numbers for a given space at different distances, 1896, 630.
 of eastern Tennessee and western North Carolina, 1900, 358.
 preservation of shape in pruning at transplanting, 1898, 155.
 rate of decay from fungous disease, 1900, 204.
 development of species, 1895, 349.
 growth, 1894, 477; 1898, 664.
 relation of age to susceptibility to disease, 1896, 248.
 relative endurance of shade, 1895, 348.
 immunity to insect attack, list, 1895, 378.

- Trees, remarks on plantations already established, 1900, 153.
 reproduction cuttings, 1898, 307.
 "sap up and sap down," 1894, 468.
 shade and ornamental, diseases, 1896, 237, 240, 242, 243, 245, 246, 247; 1897, 110.
 article by Albert F. Woods and B. T. Gallo-way, 1896, 237-254.
 soil conditions, 1894, 462.
 species liable to fungous diseases of leaves, 1896, 254.
 planted for forest reproduction, notes, 1899, 425, 426, 427, 428.
 sphere of general planting, 1900, 148.
 standing, measurement, 1898, 662.
 study by Division of Forestry, 1899, 23, 303.
 time for planting, 1894, 485.
 to be removed from wood crop, 1894, 499.
 variation in development with varying periods of life; measurements, 1897, 151.
 varieties adapted to different soils and localities, 1896, 334.
 for early profit in planting of waste land, 1896, 335.
 waste places on farms, 1896, 331.
 of nut for farm planting in waste places, 1896, 338.
 young, destruction in careless lumbering, 1900, 362.
 Trefoil, bird's foot, number seeds per pound, amount to sow, etc., 1894, 570.
 number seeds per pound, amount to sow, etc., 1894, 570.
 Trellis, kinds for use in greenhouse training of grapevines, 1896, 533.
 Trenching, the best method of loosening the soil, 1895, 126.
 Triangle with carpenter's level, directions for use in digging irrigation ditches, 1900, 499.
 plumb bob, with directions for use in leveling irrigation ditch, 1900, 497, 498.
Tribolium confusum and *T. ferrugineum* (flour beetles), notes, 1894, 288, 289.
 Trichinae, cause of prohibition of American pork by Germany, 1897, 239, 247.
 microscopic inspection of pork, 1898, 24; 1899, 463.
 statistics of inspection of hogs, 1899, 49.
 Trichinosis, prevalence at country slaughterhouses, 1896, 156.
 transmission by slaughterhouse rats, 1896, 159.
 Trifoliate orange, note as to hardy hybrid, 1897, 415.
Trifolium hybridum, *T. pratense*, and *T. repens* (clovers), number of seeds per pound, amount to sow, etc., 1894, 570.
Tringa ptilocnemis (sandpiper), food of nestlings, 1900, 432.
Trisetum flavescens (oat grass), number of seeds per pound, amount to sow, etc., 1894, 570.
Trochilus colubris (humming bird), food of nestlings, 1900, 427.
Troglodytes aëdon (house wren), distribution and food habits, 1895, 416.
 food of nestlings, details of half day's observation, 1900, 413.
 Tropical agriculture, note on interest, 1899, 16.
 imports, discussion by the Secretary, 1899, 60.
 region, life zone, description, 1894, 211.
 storms, damage, 1894, 123.
 Tropics, economic plants, notes on study, 1900, 30.
 Truck and garden crops, study in Department, 1897, 111.
 crops, note on planting in preparation of soil for orchard, 1900, 375.
 early, suitable soil, truck farming, 1894, 129, 130, 131.
 farmer, progressiveness and importance to other lines of business, 1900, 438.
 farming, noted localities in United States, 1900, 439.
 growing interests, weather service, 1897, 30.
 lands, mechanical analyses of subsoils, 1894, 136-138, 140, 142, 143.
 of Atlantic seaboard, 1894, 129; 1897, 126.
 eastern North Carolina, 1894, 137.
 produce, efforts to secure judicious distribution, 1900, 450.
 marketing, discussion, 1900, 447.
 packing and grading, 1900, 451.
 refrigerator transportation, 1900, 442, 444, 446.
 shipments, direction of movement south to north, 1900, 440.
 soils, constituents, 1894, 133.
 of Florida and South Carolina, 1894, 136.

- Truck soils of Maryland, 1894, 139.
 Virginia, 1894, 138.
 value on Atlantic seaboard, 1894, 131.
- Trucking business, principal centers in United States, 1900, 440.
 interests, development, article by F. S. Earle, 1900, 437-452.
- Trudeau, Dr., directions for use of tuberculin for man, 1898, 117.
- TRUE, A. C., and R. D. MILNER, article on "Development of the Nutrition Investigations of the Department of Agriculture," 1899, 403-414.
 article on "Agricultural education and research in Belgium," 1896, 361-370.
 "Agricultural education in the United States," 1899, 157-190.
 Experiment Stations in the United States," 1899, 513-548.
 "Education and research in agriculture in the United States," 1894, 81-116.
 "Popular education of the farmer in the United States," 1897, 279-290.
 "Some types of American agricultural colleges," 1898, 63-80.
 review of work of Experiment Stations for farmer, 1897, 135-143.
- Truffles and morels, description, etc., 1897, 467.
- Trumpet creeper, distribution by farm machinery, 1896, 274.
- Tubercle bacilli, experiments in removing from milk, 1895, 437.
- Tuberculin, dilution, 1898, 114.
 distribution by the Government, 1897, 25; 1898, 119, 120.
 for human use, filtration, 1898, 115.
 preparation and use, 1898, 111-120.
 regulations of Bureau of Animal Industry for testing cattle, 1898, 116.
 requirement of test of cattle from Canada, 1897, 251.
 test, remarks of Secretary, 1900, 19.
- Tuberculosis and hog cholera, efforts for control, 1897, 25. (*See also* Bovine tuberculosis.)
 bovine, work of Bureau of Animal Industry, 1899, 455.
 diffusion by feeding offal, 1896, 160.
 effect on improvement of cattle by breeding, 1899, 635.
 efforts for protection and eradication, 1897, 251, 254.
 evidence of infection in cattle, 1898, 117, 118.
 name of disease of olive, 1898, 652.
 prevention, remarks of Secretary, 1900, 19.
 statement by Secretary as to experiments, 1898, 28.
- Tuberose, growth and use for perfume, 1898, 394.
- Tulip tree, range, characteristics, uses, and suggestions for growing, 1897, 663.
- Tumbleweeds, characteristics and method of travel, 1896, 269.
 distribution of Russian thistle, 1896, 268.
- Turf, continuous, character of grass necessary for formation, 1897, 357, 358.
 forming grasses of treeless region, note, 1900, 590.
 method of fixing on slope to form terrace, 1897, 364, 365.
- Turkestan alfalfa, note on introduction and value, 1900, 141.
 production of wheat under arid conditions, 1900, 532.
- Turkey foot, value as a forage plant, 1895, 318.
 notes on tobacco exhibit at Paris Exposition, 1900, 158.
 wheat, fitness for growing in semiarid regions, improvement, 1900, 534, 542.
- Turkish leaf tobacco, remarks on comparison with bright yellow at Paris, 1900, 164.
 tobacco, use in cross-breeding, 1897, 419.
- Turnip, use as a pot herb, 1895, 210.
- Turnpike roads of chartered companies, inauguration, 1899, 370.
 speculation and forced labor on roads, era, 1899, 371.
- Turpentine, effect of bleeding of tree on value of wood, 1897, 154.
 forest, prevention of fires, 1899, 425.
- Tussock moth, white-marked, 1895, 368, 373.
- Tympanuchus americanus* (prairie hen) notes, 1899, 268.
 prairie chickens, feeding habits, 1900, 432.
- Type in breeding cattle and sheep, remarks, 1899, 638.
 wood for making, kinds, 1896, 412.
- Types of vegetables, varying conceptions, 1900, 549.
- Tyrannus tyrannus* (kingbird), food of nestlings, 1900, 426.
- Tyroglyphus*(?) *gloverii*, and *T. malus*, scale insect enemies, 1894, 253.

U.

- Unalaska, note on hay and stock raising, 1898, 522.
- Underdrainage, antiquity of the practice, 1895, 129.
 effect on cultivation of clover, 1897, 492.
 principles discussed, 1895, 139.
 remarks on craze, 1899, 342.
 usefulness in case of too much irrigation, 1897, 133.
- Underdrains for country roads, notes on construction, 1898, 320.
- Unfermented wine, note, 1898, 315.
- Uniformity in breeding stock, remarks, 1899, 641.
- Uniola condensata* (beach grass) and *U. latifolia*, notes, 1894, 430.
 use of species in binding sands, 1898, 415.
- Union Gas Engine Company, engine for spraying machine, 1896, 73.
- United Kingdom, importations of butter; of horses, 1897, 276, 277.
 imports of beef, 1893-1895, 1895, 22.
 butter, cheese, and eggs, from various countries, 1893-1895, 1895, 29, 30.
 cattle, 1893-1895, 1895, 23.
 mutton, 1893-1895, 1895, 25.
 source of honey supply, 1895, 31.
- Universities, colleges of agriculture, list, 1899, 183.
 State, courses in agriculture, 1898, 74-80.
- University, extension in agriculture, New York plan, 1897, 283.
 remarks, 1899, 187.
- Upper air, use of kites in exploration, article by C. F. Marvin, 1898, 201-212.
- Upright sea lyme grass, notes, 1894, 428.
- Urban traffic, road requirement and kind of material, 1900, 354.
- Urea, effect of muscular exertion on production, note on experiments, 1899, 404.
- Uria lomvia arra* (murre) food of nestlings, 1900, 433.
 spp. notes, 1899, 271.
- Urinator arcticus* (loon), food of nestlings, 1900, 433.
- Utah, character of public lands, their water supply and irrigation, 1898, 326, 330, 336.
 note on cooperative work in tree planting, 1897, 157.
 study of forage plants, 1897, 166.
 salt bush, notes, 1898, 547.

V.

- Vaccination, introduction as preventive of smallpox, 1899, 103.
 study in Texas fever; use (*see also* Inoculation), 1897, 243, 251, 254.
- Vaccine for anthrax or blackleg, preparation, distribution, use, remarks by the Secretary, 1897, 24, 27; 1898, 28; 1899, 49, 103, 120, 124, 454; 1900, 18.
- Vacuum tube, relation to destructiveness of tornado, 1898, 532.
- Valentine, Lawson, attempt to establish experiment station, 1899, 517.
- Valley, tendency of wind as to direction of blowing, 1900, 110.
- Valleys, liability to frost from flow of chilled air, 1897, 62.
- Values, and prices of farm production, discussion, 1897, 591.
- Vampires (flying foxes), quarantine at San Francisco, Cal., 1896, 220.
- Van Mons, Jean Baptiste, plant breeding, 1899, 469.
- Vanderbilt, G. W., systematic management of Biltmore forest, 1899, 422.
- Variola (cow pox, horse pox), 1899, 102, 105, 106.
- Varnish, shellac, used in pruning, 1895, 268.
- Vase form of pruning pear tree, advantages, disadvantages, and methods, 1900, 382.
- Vasey, George, notes on grasses, 1899, 349, 350, 364, 365.
- Veal, diagram showing cuts of meat, 1895, 572.
 feeding calves, note, 1897, 518.
- Vedalia cardinalis* (ladybird), 1894, 252; 1896, 222.
- Vegetable and animal foods in dietaries, discussion, 1898, 446.
 matter in soil, statement of Sir Humphry Davy, 1899, 204.
 dietary, some additions, article, 1895, 205-214.
 food, 1895, 205-214, 578.
 proportion in bluejays' stomachs, 1896, 202.
 garden, note on variety of soy bean, 1900, 140.
 growth, early study of relation of gases, 1899, 247.
 improvement, unconscious selection as cause, 1896, 105.

- Vegetable marrow, notes on introduction and value, 1900, 141.
- Physiology and Pathology Division, changes among officers, 1900, 36.
- exhibit at Atlanta Exposition, 1895, 514.
- publications, 1895, 624; 1896, 653; 1897, 634; 1898, 608; 1899, 685; 1900, 695.
- review of work, by B. T. Galloway, 1897, 99-110.
- work, article by Albert F. Woods, 1898, 261-266.
- organization, and duties, 1894, 42, 524; 1895, 45, 525; 1896, 557; 1897, 32, 99-110, 621; 1898, 9, 34, 595; 1899, 10, 17-19, 669; 1900, 11, 33-36, 635.
- proteids, chemical study, 1899, 744.
- seed, growing, 1898, 473; 1899, 561.
- seeds, increase in number of varieties, 1899, 566.
- preliminary test by dealers, 1897, 441.
- soil, effect of fertilizing with phosphates, 1894, 188.
- substances found in blackbird stomachs, list, 1894, 242.
- note on number described by Dr. Thomson, 1899, 215.
- Vegetables and fruits, value of forecast in raising, 1897, 62.
- trees, some diseases, 1898, 263.
- attacks of beetles and worms, 1898, 255.
- confusing and peculiar names, 1900, 544.
- cotton and cereals, diseases, 1899, 751.
- grain, notes on diseases in 1898, 1898, 652.
- early experiments on Department grounds, 1897, 202; 1899, 214.
- exports, values, 1895, 545, 547. (*See also Exports.*)
- fertilizing constituents, 1895, 567.
- forcing under glass, statistics, 1899, 586.
- improvement, remarks, 1899, 483.
- in Alaska, 1898, 516; 1900, 60, 61.
- including potatoes, sugar beets, and melons, diseases in 1900, 1900, 730.
- method of forcing development in hot climate, 1896, 97.
- notes on new varieties, 1900, 32; cultivation on vacant lots, 1898, 200.
- production in Hawaiian Islands, 1898, 571.
- relations to diet and nutrients, 1898, 446.
- soil adapted, 1894, 133.
- Southern grown, effect on Northern market, 1899, 583.
- statistics of canning in United States, 1896, 595.
- terms used in descriptions, 1900, 548.
- testing commercial varieties, article by W. W. Tracy, jr., 1900, 543-550.
- value of weather forecasts, 1894, 122.
- winter, and cut flowers, awakening of demand, 1899, 582.
- Vegetation house, use in study of soils, 1899, 245.
- Vehicle, relations of height, width of tire and strength, 1898, 296.
- Vehicles and roads, suggestions for new constructions, 1898, 295.
- farm, notes on progress, 1899, 315.
- Velocities and discharges of ditches with different grades, 1900, 494, 495.
- Velvet grass and vernal grass, damage to lawn, 1897, 361.
- number seeds per pound, amount to sow, etc., 1894, 570.
- Veneer, kinds of wood and purposes of use, 1896, 408.
- Ventilation, essential in dairy, 1896, 442.
- of cars in shipment of truck, provisions, etc., 1900, 443.
- Verbena, lemon, extraction of oil, 1898, 388.
- Vermont, dietary studies, 1898, 444.
- Vernal grass, number seeds per pound, amount to sow, etc., 1894, 570.
- Very, Professor, light on subject of hot waves from investigations, 1900, 334.
- Vessel masters, lake charts from Weather Bureau, 1898, 21.
- Vessels and animals for export, inspection by Department, 1894, 77, 124; 1895, 12; 1896, 21; 1898, 25; 1899, 49, 457; 1900, 17.
- Veterinarian, necessity for inspection of country slaughterhouses, 1896, 165.
- Veterinarians of England, attitude on communication of disease from horse to cow, 1899, 105.

- Veterinarians of France, views as to contagiousness of glanders, 1899, 97.
 State, and secretaries of sanitary boards, 1898, 616-619; 1899, 698-701; 1900, 653-655.
- Veterinary division in Department, note on establishment, 1897, 237.
 medicine, school at Brussels, 1896, 364.
 schools and veterinarians, statements as to rabies, 1900, 212-217.
 science, commencement of systematic study, 1899, 96.
 work of experiment stations, 1899, 537.
- Vetch, common kidney, number seeds per pound, amount to sow, etc., 1894, 570.
 Dakota, value, cultivation, and chemical composition, 1897, 505.
 Stolley, growth and value as forage, 1897, 172, 508.
 wild, value as a forage plant, 1895, 318.
- Vetches, notes on value in Sierra foothills, 1900, 139.
- Vicia villosa*, method of testing seed, 1897, 449.
- Vigna catjang* (cow pea), article by Jared G. Smith, 1896, 287.
- Ville, study of nitrogen as plant food, 1899, 247.
- Vilmorin, Henri de, observation on grade breeding of plants, 1898, 356.
 remark on cross breeding in improvement of plants, 1898, 368.
- Vine, grape, best method of pruning, 1898, 165. (*See Grape.*)
 mesquite, range and value, 1900, 593.
- Vinegar, imports, 1891-1895, 1895, 550.
 manufacture from apples and grape juice, 1898, 315.
 production from wood, 1896, 394, 414.
- Vines, hybrid, Millardet on vigor (*see Grape*), 1897, 420.
 increased yield as result of treatment of diseases, 1897, 108
 training on trees in Italian vineyards, 1896, 499.
- Vineyard planting in California, furore, 1898, 553.
 Sound, note on photographs of waterspout, 1898, 534.
- Vineyards and orchards, growth without rain or irrigation in California, 1897, 436.
 brief review of grape growing and diseases, 1899, 197.
 cooperative experiments in New York, 1897, 283.
 notes on relation to water supply in California, 1897, 431.
 polyhalite and schönite as fertilizers, 1896, 121, 122.
- Violet cuttings, improvements by selection, 1898, 373.
 (*Viola odorata*), culture for perfumery, 1898, 393.
 yield per month in breeding experiment, 1898, 375.
- Violets, prevention of leaf-spot disease, 1898, 264.
- Vireos, habits and relation to fruit growing, 1900, 298, 416.
- Virgin forests, character in southern Appalachians, 1900, 366.
- Virginia, colonial, 1895, 493, 494.
 extirpation of Texas fever in certain counties by picking off ticks, 1897, 244.
 members of legislature, lesson from New Jersey road, 1897, 353.
 note on raising of Angora goats, 1898, 434.
 notes on tobacco soils, 1897, 127.
 planting of cowpeas, 1897, 498.
 tobacco fields, observation of injuries by flea beetle, 1898, 124.
 tobaccos, notes on exhibit at Paris Exposition, 1900, 164.
 truck soils, 1894, 138.
 University, effort for professorship of agriculture, 1899, 163.
- Virus, failures in effort to destroy, 1899, 119.
 of rabies, 1900, 235, 241.
- Viticulture, State board in California, creation, 1898, 553.
- Vitrified brick, note on use in road building, 1897, 178.
- Volga region, Russia production of wheat, remarks, 1900, 532.
- Voluntary observer in Weather Bureau, work, 1897, 68, 71.
- Volunteer experiments in agrostology, 1899, 360.
 observers of weather, note on work, 1899, 86.
- Voorhees, E. B., collection of data on irrigation in New Jersey, 1899, 39.
- Vultures, food of nestlings, 1900, 431.

W.

- Wabash River Valley, note on timber, 1900, 147.
- Wade, Benjamin, introduction of bill for land grant agricultural colleges, 1899, 167.
- Wages and laborers in sugar industry in Hawaiian Islands, 1898, 580.
 of farm laborers, 1896, 54; 1897, 586.
 work, and food in United States, 1894, 376.

- Wagon road, cost of construction with steel track, 1898, 294.
roads, steel track, article by Martin Dodge, 1898, 291-296. (*See also* Roads.)
- Wagons, farm, problem of wide tires, 1897, 179.
- WAIT, ROBERT E., article on "The work of the Department of Agriculture as illustrated at the Atlanta Exposition," 1895, 503-522.
- WAITE, M. B., article on "Commercial pear culture," 1900, 369-396.
"Pollination of pomaceous fruits," 1898, 167-180.
"The cause and prevention of pea blight," 1895, 295-300.
- Wales, number of head of cattle in June, 1895, 18.
- Walker, Dr. J. R., report on symptoms of poisoning of Indian with camas, note, 1900, 321.
John, statement as to raising Angora goats, 1898, 435.
- Wallace, Henry, experiments in harvesting timothy seed, 1898, 486.
- Walnut, black, for fence posts; sections for profitable planting, 1900, 149, 152.
growth on the Western plains, 1895, 346.
note on waste in southern Appalachian region, 1900, 363.
range, characteristics, uses, and suggestions for growing, 1897, 659.
Burbank's hybrid, notes, 1897, 409, 410, 411.
scale, English, notes, 1894, 264.
- Walnuts and filberts, notes on imports; statistics of imports, 1870-1897, 1897, 337.
diseases in 1900, 1900, 730.
- Walsh, Benjamin D., work for economic entomology, 1899, 139.
- Walsingham, Lord, identification of tobacco leaf-miner, 1898, 138.
- Wanamaker, Postmaster-General, relation to free rural delivery of mails, 1900, 516.
- War Department, relation to weather service, 1899, 78, 79.
- Warblers, food of nestlings, 1900, 416.
habits and relation to fruit growing, remarks, 1900, 298.
- Waring, Colonel, remark on production of Trophy tomato, 1899, 484.
- Warne, W. W., note on cattle raising at Haines, Alaska, 1898, 521.
- Warnings of Weather Bureau, value, 1894, 29, 118, 124; 1899, 9, 11, 12, 80, 90.
- Warren, B. H., study of birds of Pennsylvania, note, 1899, 263.
- Wash, resin, preparation and use against insects and fungi, 1897, 639, 676.
- Washes for spraying citrus trees, discussion, 1900, 260.
- Washington, agricultural fairs, 1894, 84.
and Oregon, note on sandy areas and sand binders, 1898, 418.
(City) notes on deaths from rabies and hydrophobia, 1900, 211, 212.
D. C., note on tornado, 1898, 534.
observation of gold finch, 1898, 229.
observations on sparrows, 1898, 223.
weeds, 1898, 194, 198.
effect of fires in Olympic Mountains, 1898, 190.
George, remarks on need of roads, 1899, 369.
navel orange, failure to fruit in Florida, 1897, 189.
President, recommendation of national board of agriculture, 1899, 513.
public lands, 1898, 326, 330, 342.
rainfall sufficient for wheat growing, 1900, 532.
State, description of soil samples, 1897, 439.
investigation of flax region, 1897, 229.
time for seeding for lawn making, 1897, 363.
- Washington's message to Congress, 1894, 83.
- Wasps, damage to figs, note, 1900, 94.
- Waste lands, difficulties of cropping, advantages of tree planting, 1896, 326.
early planting of forest trees, 1899, 417.
tree planting on the farm, article by Charles A. Keffer, 1896, 323.
of food, 1894, 384; 1898, 449.
- Wastes of cities and towns as fertilizers, note on chemical investigations, 1899, 239.
- Water, absorptive power of road and of road material, relation to road building, 1900, 352. (*See also* Irrigation.)
amount detrimental to plants; how plants obtain water, 1894, 168.
used in irrigation in California, 1895, 480.
application in irrigation, 1896, 192.
as factor in growth of plants, 1894, 165.
birds, food of nestlings, 1900, 433.
boiling, merits as disinfectant, 1896, 255.
capacity of soils containing different amounts of humus, 1895, 138.
cause of movement in soils, 1897, 130, 436, 437.
conservation by tree planting, 1896, 324.

- Water content of potatoes compared with other foods, 1900, 340.
 soils, discussion, 1897, 45; 1900, 402.
 duty in irrigation, definition, 1896, 193; 1897, 640; 1899, 38.
 economy of supply on Western plains, 1896, 170.
 effect of varying supply on plant modifications, 1896, 94.
 excessive claims in irrigation, 1899, 606.
 for the farm, influence of the forest in providing, 1895, 337.
 hemlock, difference from parsnip, 1900, 311.
 hemlocks, characters, species, distribution, poison, and damage, 1900, 310-314.
 poisoning, remedies, 1900, 314.
 hot, in cleaning dairy, 1896, 434.
 use against smut in wheat, 1896, 496.
 hyacinth, injury by freezes in Florida in 1894-95, 1895, 173.
 introduction as a flower in Florida, 1896, 279.
 in green plants, 1894, 166.
 soils, movement and retention, article by Lyman J. Briggs, 1898, 399-404.
 notes, discussion, 1897, 127, 130, 429, 436, 437.
 tobacco soils, amount, 1894, 150, 154.
 influence of texture of soil on movement, 1898, 403.
 injury by excessive use in irrigation, 1897, 132.
 laws, complications from lack of uniformity, 1899, 605.
 lettuce, injury by freezes in Florida in 1894-95, 1895, 173.
 loss by evaporation from foliage, 1894, 173.
 methods of lifting, for use in irrigation, 1896, 179.
 need of investigation of practical use for irrigation, 1898, 53.
 notes on destructiveness to roads, 1898, 319.
 use and control in irrigated regions, 1899, 25.
 oats (beach grass) as soil binder, 1894, 430.
 ownership, suggestion for solution of problem, 1899, 607.
 power as source of wealth in arid region, 1899, 600.
 in Porto Rico, notes, 1898, 510.
 of soils to absorb, statement by Davy, 1899, 205.
 prevention of aeration of soil by presence, 1896, 240.
 problem for irrigation in Arizona, 1900, 488.
 of supply and storage in arid regions for irrigation, 1896, 177.
 protection against frost in orchards, 1897, 64.
 quantity necessary per unit of area in irrigation, 1896, 193.
 relation to soils, 1897, 127.
 transplanting of turf, 1897, 364.
 right contracts, remarks, 1899, 39.
 rights in arid regions, 1899, 595, 597.
 necessity for attention from Federal Government, 1899, 37.
 need of adjustment in irrigated regions, 1898, 53.
 sources of supply for irrigation on Western plains, 1896, 174.
 storage and conduction for irrigation on Great Plains, 1896, 187.
 supply and water content of soil, chemical study, 1899, 743.
 appropriation and distribution, 1899, 608.
 in soil, importance of problem, 1897, 429.
 for irrigation in Nevada, 1898, 333.
 stock on ranges of Northwest, importance, 1897, 168.
 note on relation to forestry, 1898, 182.
 of crops, remarks, 1895, 138, 233, 234.
 relation to root development, 1894, 166.
 requisite for date culture, 1900, 468.
 transportation, relation to truck farming and market gardening, note, 1900, 439.
 underground, supply and use in irrigation, 1896, 179, 194.
 weevil, rice, remedies, 1894, 574.
 witches, uselessness in locating wells, 1896, 178.
 Watermelon wilt, notes on disease in 1898, 1898, 652.
 Watermelons, shipment to market, notes, 1900, 404.
 Waterspout, note on care in road building, 1900, 187.
 Waterways, approach of railways in cheapness of transportation, 1899, 651.
 Watson Elkanah, origination of cattle shows, 1899, 160.
 Wattle fence, use in arresting sands, 1898, 406.
 Watts, J. W., statement as to value of Angora goat industry, 1898, 434.
 Wax, grafting, used in pruning, recipes, 1895, 268.
 scale, Florida, *Ceroplastes floridensis*, distribution and description, 1900, 277.

- Waxwing, cedar, food, 1900, 304, 417.
 Weasels, stoats, and ferrets, introduction into New Zealand, 1898, 96.
 Weather and crop conditions, 1897, 689-697; 1898, 627-651; 1899, 720-743; 1900, 696-724.
 soil, effect on quality of grass seed, 1898, 477.
 bulletin, daily, copy of first of daily series, 1899, 80.
 Bureau and its voluntary observers, notes, 1895, 555.
 West Indies, cyclone service, 1894, 32.
 annual reports of chief, remarks, 1899, 83.
 appropriations and expenses, 1882 to 1894, 1894, 28.
 Chief, method of appointment, 1896, 12.
 classification of work, 1897, 59.
 contributions to meteorology, 1899, 91.
 dissemination of information, 1894, 118.
 distribution of publications, 1894, 28.
 economy of administration, 1894, 27.
 exhibit at Atlanta Exposition, 1895, 505.
 forecasts, force of central office; value of warnings, 1894, 29.
 kites, pounds of pull, 1898, 204.
 library, 1899, 87, 505.
 map, explanation of high and low pressure areas, 1898, 526.
 need of assistant chief, 1898, 22.
 stations in West Indies, 1898, 19.
 new lines of investigation, 1900, 14.
 work, article by Willis L. Moore, 1898, 81-86.
 note on statistics on losses of property by lightning, 1898, 21.
 notes as to annual reports; maps; Monthly Review, 1897, 206.
 on saving of property by warnings, 1898, 21.
 observations in upper air, 1898, 201.
 offices, locations, 1897, 29.
 organization, 1899, 79.
 position as machine for handling crop information, 1897, 68.
 present and proposed lines of work, 1894, 120.
 principles of forecasting; notes; charts, 1897, 72, 73.
 promotions by competitive examinations, 1894, 28.
 publications, 1895, 625; 1896, 654; 1897, 634; 1898, 609; 1899, 676, 685; 1900, 695.
 report of annual precipitation, 1896, with normal, 1896, 600.
 chief on work for farmer, 1897, 59-76.
 temperatures, 1896, 1896, 600.
 review of work for farmer, by Willis L. Moore, 1897, 59-76.
 service for cereal growers, 1896, 38.
 signals, notes and diagram, 1898, 668.
 telegraph service, 1894, 32.
 timeliness of warnings, 1896, 38.
 usefulness of telegraph service, 1898, 22.
 verification of forecasts, 1896, 39.
 voluntary observers, equipment and duties, 1896, 601.
 work, organization and duties, 1894, 27-33, 523; 1895, 31-35, 523; 1896, 37, 654; 1897, 27-31, 619; 1898, 11, 19-22, 593; 1899, 9, 11-14, 667; 1900, 10, 14-15, 633.
 charts, early construction, 1899, 73.
 conditions during June and September, hot waves, 1900, 330, 331
 facts used by forecaster in deductions, 1897, 74.
 general, to be expected during hot waves, 1900, 333.
 of crop of 1894, 1894, 529.
 diagrams and tables, 1895, 554; 1896, 600; 1897, 697; 1898, 640-651; 1899, 722, 732; 1900, 697, 715.
 during blooming, effect on setting of fruit and fruitage, 1898, 175, 179.
 effect in development of Texas fever, 1898, 466.
 on six-spotted mite, note, 1900, 289.
 falling, local signs, 1900, 109.
 forecasts, amplification, article by Alfred J. Henry, 1900, 107-114.
 comments by Secretary, 1895, 32.
 general distribution, 1897, 65.
 in 1895, statistics by months, 1895, 554.
 Alaska, discussion, 1897, 556, 567.

- Weather indications from temperature and moisture, summary, 1900, 110.
 map and forecast, daily, discussion, 1899, 88.
 annual issue, 1894, 118.
 daily, objects, parts, etc., 1899, 88.
 use in foretelling frosts, 1895, 146.
 description, 1895, 147; discussion of features, 1900, 113.
 early suggestions and compilations, 1899, 76.
 first daily, note, 1899, 77.
 notes on study, 1900, 112.
 observations, collection and study, remarks, 1899, 85.
 records in Philippine Islands, 1898, 672.
 relation of forecasts to Alaska, Canada, Mexico, and West Indies, 1899, 72.
 low and high pressure areas, 1900, 112.
 report, suggestion by Lavoisier in France, 1899, 76.
 reports, explanation of terms used in forecasts, 1900, 108.
 supply to farmers by rural free delivery, note, 1900, 524.
 Review, Monthly, remarks on establishment and contents, 1899, 86.
 service, demands for extension, 1897, 28.
 growth in value, 1897, 30, 60.
 in Alaska, provision at Sitka, 1898, 50.
 organic laws, 1899, 71.
 remarks on savings, 1899, 90.
 successive chiefs, 1899, 78.
 West Indian, relation to naval operations, 1898, 84.
 stations, extracts from annual reports, 1894, 125.
- Weathering of rocks and formation of soluble matter, 1898, 495.
- Webb, W. S., land lumbered in systematic way, 1899, 420.
- WEBBER, HERBERT J., and ERNST J. BESSEY, article on "Progress of plant breeding in the United States," 1899, 465-490.
 WALTER T. SWINGLE, article on "Hybrids and their utilization in plant breeding," 1897, 383-420.
 article on "Fertilization of the soil as affecting the orange in health and disease," 1894, 193-202.
 "Improvement of plants by selection," 1898, 355-376.
 "Influence of environment on the origination of plant varieties," 1896, 89-106.
 "Methods of propagating the orange and other citrus fruits," 1896, 471-488.
 "The pineapple industry in the United States," 1895, 269-282.
 "Two freezes in Florida and what they teach," 1895, 159-174.
- Webworm, fall, remedies, 1894, 574; 1895, 375.
- Weed, Clarence M., studies of chickadee and sparrow, 1899, 263.
 destroyers, birds, article by Sylvester D. Judd, 1898, 221, 232.
 migration, direction of travel, 1896, 283.
 germinative vitality as factor, 1896, 282.
 history, 1896, 281.
 natural means, 1896, 263.
 suggestions for prevention, 1896, 265, 286.
 summary of conclusions, 1896, 286.
 seeds, varieties in clover seed, 1896, 278.
- Weeder, use in pear orchard and peach orchard, 1900, 377.
- Weeds, beggar, value as forage plants, 1895, 318.
 border on northern highways, 1896, 268.
 danger near tobacco field, 1898, 150.
 development by cultivation of crops, 1896, 285.
 distribution along towpaths, 1896, 280.
 by armies; by hay and in vegetable and grass seed, 1896, 275.
 railways, 1896, 281.
 water, 1896, 270.
 in ballast of ships, 1896, 280.
 growth on waste lands and along highways, 1896, 326.
 in cities and towns, article by Lyster H. Dewey, 1898, 193-200.
 seed from Russia, note on prevention of spread, 1898, 56.
 list with methods of eradication, 1894, 583; 1895, 592-610.

- Weeds, lists showing origin and course of travel, 1896, 283.
 maps, showing distribution, 1896, 280, 281.
 means of reducing in lawn, 1897, 356, 365.
 migration, article by Lyster H. Dewey, 1896, 263-286.
 note on destruction by goats, 1898, 431.
 noxious, note on check by birds, 1898, 33.
 present distribution, 1896, 281.
 prevention of introduction into United States; model law, 1897, 95, 96.
 seed, percentage of destruction by birds, 1897, 351.
 some good effects and some bad effects in cities, 1898, 196, 197.
 special avenues of migration, 1896, 280.
 species distributed by animals, 1896, 271.
 drifting over frozen ground or snow, 1896, 267.
 flying seed, 1896, 266.
 rolling as tumbleweeds, 1896, 268.
 in commercial seeds, 1896, 276.
 introduced as useful or ornamental plants, 1896, 279.
 spread by farm machinery, 1896, 273.
 nursery stock and in packing, 1896, 274.
 root stocks, 1896, 264.
 runners and running roots, 1896, 263, 264.
 throwing of seed, 1896, 265.
 study by Division of Botany, 1897, 95.
 suggestion of destruction as measure against tobacco insects, 1898, 124.
 summary of observations on destruction by birds, 1898, 232.
 twenty-five most harmful, 1897, 641-644.
 value as forage, 1897, 167.
- Weevil, bean, description and distribution; remedies, 1898, 239, 242.
 remedies, 1894, 571.
 cowpea, appearance, origin, and distribution; parasites, 1898, 243, 245.
 damage to legumes, 1898, 233.
 granary, notes, 1894, 279.
 Mexican cotton-boll, 1895, 51; 1898, 32.
 nature of injury to peas, 1898, 235.
 pea, remedies, 1894, 574.
 rice, remedies, 1894, 280, 281, 574.
 strawberry, remedies, 1894, 574.
- Weevils, flour, notes, 1894, 288.
 foreign bean and lentil, observations, 1898, 247.
 grain, remedies, 1894, 573.
- Well water, advantages for irrigation, 1896, 179.
- Wells, importance and advantages as source of water for irrigation, 1896, 178, 179.
 problem of finding best location for irrigation, 1896, 178.
- Wesbrook, Dr. F. F., conclusions from investigations of rabies, 1900, 217.
- Wesleyan University, cooperation in dietary studies, 1898, 440.
 nutrition investigations, 1899, 405, 406, 407, 409.
- West and South, additional Weather Bureau stations, 1898, 81.
 George, warning of overproduction in raisin industry, 1898, 554.
 India Islands, importance of agriculture and need of investigation, 1898, 19.
 Indian cablegraphic service, inauguration, 1898, 83-85.
 Indies, cyclone service, 1894, 32.
 daily synoptic chart of weather conditions, 1898, 84.
 note on early trade with United States, 1897, 310, 311.
 weather reports, 1899, 89.
 investigations in agrostology, establishment of grass stations, 1899, 351.
- West, MAX, article on "The public domain of the United States," 1898, 325-354.
- West Point foundry, building of locomotives, 1899, 647.
 N. Y., protection of shade trees by spraying, 1896, 82.
 Virginia, report as to outbreaks of rabies, 1900, 218.
- Western and Eastern United States, comparison of soils, 1897, 129.
 States, ability of soil to endure drought, 1897, 130.
 mean annual and seasonal rainfall for certain points, 1897, 438.
 table showing mechanical analyses of soils, 1897, 440.
- Wetherill, C. M., appointment as chemist of Department, note, 1899, 236.
- Wetmore, Charles A., aid in development of California wine industry, 1898, 553.
- Wheat, acreage, production, value, and distribution, by States, 1895, 526; 1896, 559; 1897, 710, 713, 718, 720; 1898, 678, 681; 1899, 760, 766; 1900, 767.

- Wheat, adaptation of hard varieties to middle latitudes, 1896, 493.
 affected with loose smuts, 1894, 411.
 and wheat flour, exports to leading countries, 1892-1896, 1896, 563.
 area in crop, changes from 1879 to 1889, 1895, 528.
 areas in North Dakota, supply and use of rainfall, 1897, 433.
 average prices, 1889 to 1891, comparison showing effect of bad crop outlook, 1900, 179.
 in England, 1041 to 1896, by periods of years, 1897, 594.
 yield and value per acre, by States, 1897, 718; 1898, 686, 687; 1899, 783, 788.
 in certain countries, 1899, 798.
 basis of sliding scale for rent on English farm, 1898, 585.
 breeding for resistance to rust, 1898, 266.
 causes for fluctuations in price, 1896, 489.
 change of summer variety to winter and the reverse, 1896, 105.
 comparison of total areas in United States and Argentina, 1897, 267.
 condition necessary for growing on Eastern farms, 1897, 124.
 of soil for drilling and direction of drill rows, 1896, 490.
 copper-sulphate treatment for stinking smut, 1894, 417.
 crop, American, relation to prices, 1900, 168.
 of the United States, and exports of wheat, 1900, 168.
 world, by countries, 1895, 530; 1896, 569; 1897, 717; 1898, 686; 1899, 776; 1900, 763.
 possibility of yearly production in semiarid district without irrigation, 1900, 530-533.
 crops in cold semiarid regions of Russia, 1900, 531.
 culture, improvements, article by Mark Alfred Carleton, 1896, 489.
 damage in South by black-stem rust, 1896, 498.
 diseases, causes and prevention, 1896, 496.
 disposition of crop of 1895, by States, 1895, 527; 1896, 563.
 distribution of weeds, 1896, 276.
 effect of different temperatures on germination, 1895, 178.
 latitude on content of gluten, 1899, 244.
 various food crops on price, 1900, 170.
 experience in use of inferior seed, Kansas, 1896, 495.
 experiments by Department, 1897, 111.
 exports, 1894, 541; 1895, 544; 1896, 586; 1897, 745; 1898, 714; 1899, 760, 831; 1900, 766, 849.
 famine, discussion of possibility, note, 1900, 529.
 farm prices, December, by States, 1894, 545; 1895, 532, 536; 1896, 578; 1897, 723; 1898, 692; 1899, 793.
 favorable outlook for profit under improved methods, 1896, 498.
 fields, ravages by birds, 1897, 352.
 flour, American, sales to Denmark, 1899, 46.
 freight rates, 1897, 755, 757; 1898, 723, 726; 1899, 841, 847. (1900, *see* Wheat, statistics.)
 grass, slender, character and value, 1900, 593.
 Southern as soil binder, 1894, 435.
 species as sand binders, 1898, 420.
 grasses as means of reclaiming range lands, note, 1899, 29.
 of Northwest, note, 1897, 161.
 remarks on varieties and uses, 1899, 357.
 usefulness in alkali soil of "Red Desert of Wyoming," 1897, 169.
 growing, successful, in semiarid districts, article by Mark Alfred Carleton, 1900, 529-542.
 hard and soft, difference of flour, 1899, 216.
 harvest, 1899, 726, 727, 728, 729, 730.
 harvests and quality in semiarid districts of United States, 1900, 530.
 hot-water treatment for smut, 1894, 415, 417.
 importance of introduction of new varieties, 1900, 135.
 imports, 1894, 543; 1895, 548; 1896, 591; 1897, 738; 1898, 707; 1899, 824; 1900, 842.
 improvement by cross breeding, 1896, 494.
 selection of seed and hybridization, 1899, 486.
 of quality, 1899, 472; 1900, 542.
 influence of rye on price, article by Edward T. Peters, 1900, 167-182.
 introduction of new varieties, 1900, 135, 143.

- Wheat, investigation of consumption, 1898, 60.
 isosoma, remedies, 1894, 574.
 lands on the Pacific coast, peculiar relations to water supply, 1897, 432.
 low average of profitable production on Western plains, 1896, 489.
 machines for sowing and reaping, 1899, 318.
 methods of culture, 1896, 490; 1900, 538-542.
 minor products, variation in content of protein, 1897, 422.
 note on crossing with rye and barley, 1897, 389.
 establishment of price at Liverpool, 1897, 275.
 gluten content, 1899, 15.
 notes on hybrid forms, 1897, 394.
 introduction of new varieties, 1900, 143.
 relation of seeding, growth, and harvest to weather in 1900, 697-713.
 oats and corn, investigation of zones, 1897, 32.
 plant louse remedies, 1894, 574.
 potash, withdrawal from soil in cultivation, 1896, 114, 115.
 price in English markets, 1894, 19.
 prices and world's wheat crop, 1900, 169.
 on farm, 1894, 545; 1895, 532, 536; 1896, 578; 1897, 723; 1898, 692; 1899, 793. (*See also* Wheat statistics; *also* Wheat, wholesale.)
 production and exports, 1895, 527; 1896, 561.
 proposed experiment as to use of straw as manure, 1897, 298.
 raising, use of large farms on Pacific coast and on Missouri River, 1897, 586.
 regions, division in United States, 1896, 492.
 relation of production to rainfall, note, 1900, 532.
 resistance of rust by varieties, 1896, 497.
 rust, relation to barberry plant, notes, 1899, 192.
 selection of seed, 1896, 495.
 varieties, 1896, 491.
 smuts, extent of damage, 1894, 410.
 soils of Atlantic coast, 1897, 127.
 spring, seeding in 1899, 1899, 724.
 statistics for Argentina, 1890 to 1896, 1897, 265.
 of world's crop, and of United States acreage, yield, value, and prices, 1900, 762-773.
 stem sawfly borer of Europe, discovery in New York State, 1897, 539.
 stinking smuts, 1894, 1894, 409, 478.
 suggestion for growth of seed, 1896, 495.
 table showing advance in price upon increase in production affected by rye, 1900, 173.
 average value and yield, 1897, 592.
 three groups of varieties, 1896, 492.
 time for seeding, 1896, 491.
 trial in United States of New South Wales varieties, 1896, 494.
 use as a nurse plant in timothy seeding, 1896, 149.
 variations in prices; varieties for Southern States, 1897, 116.
 varieties for semiarid districts, 1900, 533.
 special purposes, 1896, 493.
 resistant to leaf rust, 1898, 262.
 wastefulness in tillage, 1896, 490.
 weather conditions, 1897, 1897, 690-697.
 wholesale prices in leading cities, 1894, 535; 1895, 538; 1896, 580; 1897, 727; 1898, 696; 1899, 801, 802; 1900, 771.
 Wheats, note on introduction, 1900, 138, 139, 142.
 Wheels, construction with flanges, 1899, 644.
 of vehicles, suggestion for change of height, 1898, 296.
 Whey for invalids, aid to digestion products, 1897, 528.
 from cheese factories, use in making milk sugar; other uses, 1897, 524-526.
 Whirlwinds, relation to tornadoes, 1898, 525.
 Whisky, relation of chemistry to aging, note, 1899, 256.
 White ants, destruction by English sparrows, 1900, 421.
 inarching as remedy with citrus fruits, 1896, 488.
 Burley tobaccos (*see also* Burley), 1900, 164.
 curing and assorting, 1899, 435.
 origin and growth of trade, 1899, 430.
 clover, number seeds per pound, amount to sow, etc., 1894, 570.
 usefulness for mixture with bluegrass in lawns, 1897, 359-361.

- White fly, *Aleyrodes citri*, distribution, description, and remedies, 1900, 283, 284.
 grub (June beetle), remedies, 1894, 574.
 mustard seed, use in producing oil, 1895, 203.
 oak of California, tree suitable for alkali soils, 1895, 121.
 pine, importance among American woods, 1896, 403.
 region, taxes as factor in causing denudation, 1898, 184.
 study of growth, 1897, 151.
 trees left for seeding in New Hampshire, 1899, 421.
 rot of oak, manner of attack; treatment, 1896, 252.
 scale, destruction by parasites, 1896, 222.
- White-eye, bird, scale insect enemy, 1894, 252.
- White-marked tussock moth, a shade-tree insect, 1895, 368.
- Whitewash and manufactures, use of skim milk, 1897, 522.
- WHITNEY, MILTON, and MARCUS L. FLOYD, article on "Growth of the tobacco industry," 1899, 429-440.
 article on "Reasons for cultivating the soil," 1895, 123-130.
 "Soil investigations in the United States," 1899, 335-346.
 "Soils in their relation to crop production," 1894, 129-164.
 "Some interesting soil problems," 1897, 429-440.
 review of work of Division of Soils for farmer, 1897, 122-132.
- Whitney, W. C., land lumbered in systematic way, 1899, 420.
- Whitson, W. P., suggestion of cold storage for meats, etc., 1900, 565.
- Wickson, E. S., remarks on growing flower seed, 1899, 560.
- Wide tires for prevention of ruts, 1898, 324.
- Wild barley, value as a forage plant, 1895, 318.
 canary, eating of weed seeds, 1898, 229.
 carrot, method and extent of distribution, 1896, 272, 278, 280.
 fig, importation and use of cuttings, 1900, 80.
 injury by freezes in Florida in 1894-95, 1895, 172.
 horses, pigs, etc., instances of shooting as pests, 1898, 88.
 mustard. (*See* Black mustard.)
 onion, distribution with seed wheat, 1896, 276.
 pigeon (*see also* Passenger pigeon), 1899, 268.
 rye grass, value as a forage plant, 1895, 318.
 vetch, value as a forage plant, 1895, 318.
 wheat grass, value as a forage plant, 1895, 315.
- Wilder, Marshall P., advice on origination of varieties of fruit, 1899, 473.
- Wilderness turnpike, early road from Virginia to Kentucky, 1899, 370.
- WILEY, H. W., article on "Mineral phosphates as fertilizers," 1894, 177-192.
 "Potash and its functions in agriculture, 1896, 107-136.
 "Relation of chemistry to the progress of agriculture," 1899, 201-258.
 "Soil ferments important in agriculture," 1895, 69-102.
 investigation of cereals, sugars, and other products, as food, 1899, 406.
 note on analyses of foods, 1899, 405.
 review of work of Division of Chemistry for farmer, 1897, 76-84.
- Williams, Jesse, establishment of first cheese factory, 1899, 384.
- WILLIAMS, THOMAS A., article on "Millets," 1898, 267-290.
 "Succulent forage for the farm and dairy," 1899, 613-626.
 "Timothy in the prairie region," 1896, 147-154.
- Willits, Edwin, retirement as Assistant Secretary, 1894, 23.
- Willow, use in binding soil against wash of river, 1896, 337.
 utility on the Western plains, 1895, 344.
- Willows, note on value for planting, 1900, 152.
- Wilson, J. P., patent for application for potato bugs, 1899, 147.
- WILSON, JAMES, report as Secretary of Agriculture, 1897, 9-58; 1898, 9-62; 1899, 9-70; 1900, 9-78.
 Secretary, regulations for control of Texas fever, 1899, 449-452.
 Prof. E. J., note on employment as special agent, 1898, 57.
 W. H., report of toll on Columbia and Philadelphia Railroad, 1899, 648.
 William L., inauguration of free rural delivery of mails, 1900, 517.
- Wind, agency in fertilization of plants, 1896, 211.
 as means of distribution of weed seeds, note, 1898, 195.
 changes and relation to weather, 1900, 110.

- Wind, effect upon frost, 1897, 63.
 mantle for forest, 1894, 492.
 relation of direction to weather and variation with season of year, 1900, 111.
 to "high" and "low" weather areas, 1897, 73.
 velocities of tornadoes, 1898, 534.
- Wind-break, note on use for protection of orchards, cattle, and crops, 1897, 140.
- Wind-breaks, influence on crops, 1895, 338.
 tree planting, 1899, 427.
 use in protecting plants from frosts, 1895, 153, 165.
- Windmill, cost of sizes used in irrigation, 1896, 185.
 suggestions as to pattern and care in running, 1896, 186.
- Windmills, notes and suggestions, 1896, 181, 184, 185, 186.
- Winds during hot waves, notes (*see also* Hot winds), 1900, 329, 330, 331, 332.
 hot, injury to trees in West and Southwest, 1896, 243.
 note on law of vortex motion; action in hurricane, 1898, 331.
- Wine and grapes, observation on American products by early explorers, 1897, 305, 308.
 casks, danger from attacks of ambrosia beetles, 1896, 424.
 consumption per capita, 1870 to 1896, 1896, 595.
 exports, 1891 to 1895, 1895, 545; for 1895, 1895, 547.
 grapes for California, best resistant stocks, 1898, 557.
 making and grape culture in California, 1898, 551, 552.
 value of chemistry, 1899, 255.
 unfermented, notes, 1898, 315.
 use of sulphurous acid to control fermentation, note, 1900, 556.
- Wine-making industry, chemical investigation, 1899, 237.
 machinery in California, notes, 1898, 558.
- Wineries in California, expensive construction, 1898, 554.
- Wines and grapes, prices in California, 1898, 556, 558.
 chemical examinations, 1894, 46.
 consumption in the United States, 1870-1895, 1895, 552.
 per capita, 1870-1898, 1898, 723.
 fine, best varieties of grapes, 1898, 559.
 from Pacific coast, medals from Paris Exposition of 1889, 1898, 557.
- Winogradsky, study of nitrification, 1899, 252.
- Winter (cold season), relation to winds and storms, 1900, 111, 112.
 cress, cultivation and use as a pot herb, 1895, 208.
 pruning favors pear-blight, 1895, 299.
 treatment to avoid necessity with fruit trees, 1898, 163.
 purslane, use as a pot herb, 1895, 213.
 treatment and pruning in small fruit culture, 1895, 287.
- Winterfat and grease wood, as forage plants for alkali lands, 1898, 547.
- Wintergreen, note on distillation and use of oil, 1898, 395.
- Winterkilling of trees, study by Department, 1897, 110.
- Wire grama, distribution and usefulness, 1900, 592.
 kind for use in grape trellis, 1896, 509.
- Wireless telegraphy, investigations of Weather Bureau, 1900, 14.
- Wireworms, destruction by use of potash salt, 1896, 134.
 remedies, 1894, 574.
- Wiry panic grass, value as pasturage, 1900, 593.
- Wisconsin agricultural college library, 1899, 502.
 desolation of lands by lumbering and fires, 1898, 44.
 Experiment Station, report of value of whey as hog feed, 1897, 525.
 extent and character of public lands, 1898, 326, 330, 348.
 farmers' institutes and annual bulletin, 1899, 187.
 instance of high profit in flax raising, 1897, 484.
 report of State veterinarian on rabies, 1900, 216.
 University, courses for agricultural education, 1897, 281; 1898, 77, 79.
- Witch grass (couch grass) as soil binder, 1894, 435.
- Wolf moth, notes, 1894, 286.
- Wolfe, J. J., note on "split worm" on tobacco, 1898, 138.
- Wolff's feeding standards, tables, 1895, 564.
- Wolfskill and Godwin, early experiments in spraying by steam, 1896, 70.
 date, notes, 1900, 479, 485.
- Wolves, demand for bounty to protect herds, 1896, 55.
- Women, admission to agricultural colleges, 1898, 66, 69, 72.
 and children, possibility of production of perfumery products, 1898, 397.
 teaching in domestic science, 1897, 17, 19.

- Wood, advantage of lightness, 1896, 392.
 ashes as fertilizer, 1896, 124; 1899, 212.
 remarks of Davy on use as fertilizer, 1899, 212.
 source of potash and other fertilizers, 1896, 124.
 biological peculiarities, 1896, 402.
 chemical properties, 1896, 401.
 combination producing toughness, 1896, 397.
 comparison of hard wood with pine and other woods, 1896, 399.
 with iron, showing advantages, 1896, 392.
 complexity of tests of strength, 1896, 396.
 consumption and waste, 1897, 152, 153.
 crop, adaptation to soil, 1897, 145.
 how to cultivate, 1894, 495.
 methods of reproduction, 1894, 489.
 thinning, 1894, 498.
 uses from trees planted in waste spaces of farm, 1896, 334.
 weeding and cleaning, 1894, 498.
 division into two great classes, 1896, 395.
 drawbacks to use, 1896, 401.
 example of marketing timber from small tract, 1896, 418.
 extent and ways of use, kinds for different purposes, 1896, 403.
 general remarks on usefulness, 1896, 391.
 hair grass, points of distinction of seed from fescue grass, 1898, 489.
 hardness, definition and test, 1896, 398.
 lot agreement between Division of Forestry and farmers, 1898, 299.
 treatment, 1894, 486.
 lots, tree planting, 1899, 426.
 meadow grass, description of seed, 1898, 484.
 mechanical properties, 1896, 395.
 requirements for small implements, 1896, 411.
 note on effect of pruning on growth, 1898, 154.
 peculiarities of market in United States, 1896, 414.
 physical properties, 1896, 400.
 points of difference between different kinds, 1896, 395.
 production, effect of light, 1894, 496.
 products of distillation, 1896, 394.
 pulp and products of distillation, 1896, 413.
 qualities governing selection for veneer and similar uses, 1896, 412.
 relation of chemical combinations and color to durability, 1896, 401.
 fungi destructive to trees, notes, 1900, 200.
 stiffness, advantages, and relation to strength, 1896, 399.
 structural features, 1896, 402.
 structure offering resistance to splitting, 1896, 397.
 suggestions for marketing, 1896, 416, 417.
 timber—lumber, notes on quality, measurement, etc., 1896, 628.
 useful notes, 1895, 590.
 usefulness in construction of silo, 1899, 619.
 uses, article by Filibert Roth, 1896, 391.
- Woodbridge, S. M., statement as to perfumery oils in California, 1898, 388.
- Woodcock, food of nestlings, 1900, 432.
 months of legal killing, 1899, 284.
- Woodenware, mechanical requirements of wood, 1896, 411.
- Woodland, cutting for firewood, 1899, 418, 419. (*See also* Forest).
- Woodlands, present methods of cutting at Oakland, N. J., 1898, 306.
- Woodlice, inarching as remedy with citrus fruits, 1896, 488.
- Woodpeckers, characters which adapt to their habit of life; food, 1900, 291, 427.
 study by Biological Survey, 1899, 266.
- WOODS, ALBERT F., and B. T. GALLOWAY, article on "Diseases of shade and ornamental trees," 1896, 237-254.
 "Water as a factor in the growth of plants," 1894, 165-176.
 article on "Principles of pruning and care of wounds in woody plants," 1895, 257-268.
 "Work in vegetable physiology and pathology," 1898, 261-266.
- fertilizing constituents, 1895, 569.

- Woods, note on practice of burning over to secure better pasturage, 1900, 363.
 Woodward, L. R., United States commissioner at Unalaska, note on hay and stock, 1898, 522.
 Wool and sheep, wholesale prices, 1900, 829-834.
 exports to different countries, values, 1895, 547.
 fluctuation in average price of medium washed clothing, Ohio fleece, 1897, 594.
 freight rates, western centers to Atlantic ports, 1893 to 1897, 1896, 598.
 imports, 1891 to 1895, 1895, 549.
 and exports for five years ended June 30, 1898, 1898, 706, 713.
 manufacture, use of skim milk, 1897, 523.
 products of goats, note, 1898, 431.
 relation to sheep breeding, 1899, 639.
 remarks on effect of price on sheep industry, 1899, 629.
 unmanufactured, imports 1892 to 1896, by leading countries of supply, 1896, 594.
 wholesale prices in leading cities, 1899, 817.
 Woolen mills, note on abundance of bur-bearing weeds, 1898, 195.
 Wools, relation of quality to saltbush as feed, 1898, 540.
 Wooly-foot grama, distribution and usefulness, 1900, 591.
 Wooton, E. O., statement as to effect of dryness on odor of orange flowers, 1898, 387.
 Workingman, nutrition, 1894, 377.
 World's fairs, note on Weather Bureau exhibitions, 1899, 91.
 market for American horses, 1895, 26.
 Worm, boll or corn-ear, description and remedies, 1898, 255.
 Morelos orange, investigation, 1898, 30.
 "Worming," usefulness as protection from tobacco worms, 1898, 130.
 Wormseed, use in producing oil, 1895, 204.
 Wounds in woody plants, care, and pruning, article, 1895, 257-268.
 Wrapper leaf (tobacco), note on production in Connecticut, 1899, 27.
 tobacco (*see also* Cigar), 1900, 158.
 Wren, house, distribution, 1895, 416.
 food habits, 1895, 405, 416, 418.
 of nestlings, details of half day's observations, 1900, 413.
 Wright, Carroll D., studies of dietaries, 1899, 407.
 Wyandotte chickens, origin, varieties, weights, and advantages, 1896, 446.
 Wyoming Experiment Station, success with Turkestan alfalfa, 1899, 63.
 public lands, character; water supply; irrigation, 1898, 326, 330, 338.
 study of forage plants, 1897, 166, 169.

X.

- Xanthoxylum pterota* (satin wood), injury by freezes in Florida in 1894-95, 1895, 173.
Xyleborus celsus, etc. (beetles), differences in form and life of sexes, 1896, 427.

Y.

- Yale, chemical work for agriculture, 1899, 227.
 College, appointment of professor for agricultural subjects, 1899, 164.
 experimental work in agriculture, 1899, 515.
 University, spraying elms with steam apparatus, 1896, 86.
 Yearbook, establishment in place of Annual Report, 1897, 217.
 for 1899, remarks by Secretary, 1899, 43.
 need for distribution as means of education, 1897, 280.
 increase in Department quota, 1897, 55.
 of 1899, notes on character and editions, 1900, 71.
 remarks on issue of 1897 and plans for 1899, 1898, 38.
 Yeasts, chemical studies, notes, 1899, 255, 256.
 note on use in making wines, 1899, 18.
 Yellow lyme grass, description; usefulness as sand binder, 1898, 418.
 oat grass, number seeds per pound, amount to sow, etc., 1894, 570.
 scale, variety of red scale of California, remarks, 1900, 269.
 Yellowbear, description and injuries to vegetables, 1898, 257.
 Yellow-bellied woodpecker, injuries to trees, 1900, 294.
 "Yellows" in peach trees, observation as to cause, 1898, 152.
 Yellowstone Valley, investigation of alkali soils, 1898, 41.
 Young, J. R., first American study of human nutrition, note, 1899, 403.
 Yukon, note on agriculture, 1898, 520.
 Valley, remarks of Professor Georgeson on agricultural capabilities, 1900, 60.

Z.

Zamalodia ludoviciana (grosbeak), food of nestlings, 1900, 418.

Zenaidura macroura (mourning dove), food of nestlings, 1900, 431.

Zimmer Spanish and Little Dutch tobacco at Paris Exposition, remarks, 1900, 163.
tobacco, description, 1899, 437.

Zizania aquatica (Indian rice), description, 1895, 339.

Zone life. (See Life zone.)

Zones, life, seven, of North America, 1894, 210.

Zoological laboratory, work for year, 1897, 26.

Zoology, work of experiment stations, 1899, 535.

Zosterops capensis, scale insect enemy, 1894, 252.

Zumbro, A. E., notes from experiments with perfumery plants, 1898, 388.

Zygadenus, species (camas), damage to stock, remedies and preventive, discussion,
1900, 319-324.

O